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Teens, Video Games, and Civics

Teens' gaming experiences are diverse and include significant social interaction and civic engagement

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Summary of Findings

Video games provide a diverse set of experiences and related activities and are part of the lives of almost all teens in America. To date, most video game research has focused on how games impact academic and social outcomes (particularly aggression). There has also been some exploration of the relationship between games and civic outcomes, but as of yet there has been no large-scale quantitative research. This survey provides the first nationally representative study of teen video game play and of teen video gaming and civic engagement. The survey looks at which teens are playing games, the games and equipment they are using, the social context of their play, and the role of parents and parental monitoring. Though arguments have been made about the civic potential of video gaming, this is the first large-scale study to examine the relationship between specific gaming experiences and teens' civic activities and commitments.

Almost all teens play games.

Video gaming is pervasive in the lives of American teens—young teens and older teens, girls and boys, and teens from across the socioeconomic spectrum. Opportunities for gaming are everywhere, and teens are playing video games frequently. When asked, half of all teens reported playing a video game "yesterday." Those who play daily typically play for an hour or more.

Fully 97% of teens ages 12-17 play computer, web, portable, or console games. Additionally:

- 50% of teens played games "yesterday."
- 86% of teens play on a console like the Xbox, PlayStation, or Wii.
- 73% play games on a desktop or a laptop computer.
- 60% use a portable gaming device like a Sony PlayStation Portable, a Nintendo DS, or a Game Boy.
- 48% use a cell phone or handheld organizer to play games.

Gender and age are key factors in describing teens' video gaming.

Fully 99% of boys and 94% of girls play video games. Younger teen boys are the most

This Pew Internet Project report is based on the findings of a national representative random digit dial telephone survey conducted by Princeton Survey Research Associates between November 1, 2007, and February 5, 2008, among a sample of 1102 teens ages 12-17 and a parent or guardian. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is +/- 3%. For results based teens who game (n=1064), the margin of sampling error is +/- 3%. .

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likely to play games, followed by younger girls and older boys. Older girls are the least "enthusiastic" players of video games, though more than half of them play. Some 65% of daily gamers are male; 35% are female.

Youth play many different kinds of video games.

Most teens do not limit themselves to just a few game genres, instead choosing to play many different types of games. Daily gamers are more likely to play a wider range of game genres than non-daily gamers.

- 80% of teens play five or more different game genres, and 40% play eight or more types of games.
- 55% of daily gamers play eight or more types of games; just 33% of less frequent gamers do so.
- Girls play an average of 6 different game genres; boys average 8 different types.

Game Genres in Order of Popularity

What kinds of games do you play? Do you play…?

Genre (examples)	% teens who report playing games in this genre
Racing (NASCAR, Mario Kart, Burnout)	74%
Puzzle (Bejeweled, Tetris, Solitaire)	72
Sports (Madden, FIFA, Tony Hawk)	68
Action (Grand Theft Auto, Devil May Cry, Ratchet and Clank)	67
Adventure (Legend of Zelda, Tomb Raider)	66
Rhythm (Guitar Hero, Dance Dance Revolution, Lumines)	61
Strategy (Civilization IV, StarCraft, Command and Conquer)	59
Simulation (The Sims, Rollercoaster Tycoon, Ace Combat)	49
Fighting (Tekken, Super Smash Bros., Mortal Kombat)	49
First-Person Shooters (Halo, Counter-Strike, Half-Life)	47
Role-Playing (Final Fantasy, Blue Dragon, Knights of the Old Republic)	36
Survival Horror (Resident Evil, Silent Hill, Condemned)	32
MMOGs (World of Warcraft)	21
Virtual Worlds (Second Life, Gaia, Habbo Hotel)	10

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov. 2007-Feb. 2008. Teens who play games n=1064. Margin of error is ±3%. Note: games listed in parenthesis were provided to respondents on an as-needed basis by interviewers; not every respondent received the prompts.

The most popular games played by teens today span a variety of genres and ratings.

The five most popular games among American teens are Guitar Hero, Halo 3, Madden NFL, Solitaire, and Dance Dance Revolution. These games include rhythm games (Guitar Hero and Dance Dance Revolution), puzzle/card games (Solitaire), sports games

(Madden), and first-person shooter games (Halo). The ratings of these games range from E-rated "Everyone" games (Solitaire and Dance Dance Revolution), deemed suitable by the ratings board for players of all ages, to games rated Mature (M) for violence, blood and gore, and language (Halo). The range of genres spanned by the most popular games played by teens indicates they are not simply playing violent first-person shooters or action games. However, boys are more likely than girls to report playing these specific violent M-rated games.

- The average rating of all "favorite" games mentioned by survey respondents averaged just above a T, or Teen rating
- 50% of boys name a game with an M or A/O rating as one of their current top three favorites, compared with 14% of girls.

10 Most Frequently Played Games

What are your current top three favorite games?

Game Title	Number of mentions
Guitar Hero	158
Halo 3	104
Madden NFL (no specific version)	77
Solitaire	65
Dance Dance Revolution	60
Madden NFL 08	59
Tetris	59
Grand Theft Auto (no specific version)	58
Halo (no specific version)	57
The Sims (no specific version)	54

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov. 2007–Feb. 2008. Margin of error is ±3%. For further information about how the game titles were coded and counted, see the Methodology section. A total of 2618 games were mentioned.

Gaming is often a social experience for teens.

For most teens, gaming is a social activity and a major component of their overall social experience. Teens play games in a variety of ways, including with others in person, with others online, and by themselves. Although most teens play games by themselves at least occasionally, just one-quarter (24%) of teens *only* play games alone, and the remaining three-quarters of teens play games with others at least some of the time.

- 65% of game-playing teens play with other people who are in the room with them.
- 27% play games with people who they connect with through the internet.
- 82% play games alone, although 71% of this group also plays with others.

And nearly 3 in 5 teens (59%) of teens play games in multiple ways—with others in the same room, with others online, or alone.

- 42% of teens who play games in multiple ways say they play most often with others in the same room.
- 42% of teens who play games in multiple ways most often play alone.
- 15% of teens who play games in multiple ways play most often with those they are connected to via the internet.

Close to half of teens who play online games do so with people they know in their offline lives.

Online gamers are more likely to report playing games mostly with people they know in their offline lives than with teens they met online. Of teens who play games online with others:

- 47% of teens play online games with people they know in their offline lives.
- 27% of teens play online games with people they first met online.
- 23% of teens play with both friends and family known in the offline world and people they met online.

Teens encounter both pro-social and anti-social behavior while gaming.

As discussed above, games are often played with others. In multiplayer game play, different people control different characters in the game, and make individual choices about how to act and what to say in the context of the game. Nearly two-thirds (63%) of teens who play games report seeing or hearing "people being mean and overly aggressive while playing," and 49% report seeing or hearing "people being hateful, racist, or sexist" while playing. However, among these teens, nearly three-quarters report that another player responded by asking the aggressor to stop at least some of the time. Furthermore, 85% of teens who report seeing these behaviors also report seeing other players being generous or helpful while playing. We found no relationship between parental monitoring and teens' exposure to these experiences.

The most popular game genres include games with violent and nonviolent content.

The two most widely played game genres were racing and puzzle games, played by nearly three-quarters of teens in the sample. These genres are noteworthy because they have little to no violent content. However, two-thirds of teens reported playing "action"

or "adventure" games, some of which contain considerable violent content.[1] (See chart on page iii.)

- 32% of gaming teens report that at least one of their three favorite games is rated Mature or Adults Only.
- 79% of M- and AO-rated game players are boys, and 21% are girls.
- 12- to 14-year-olds are equally as likely to play M- or AO-rated games as their 15- to 17-year-old counterparts.

Parental monitoring of game play varies.

While most parents engage in some form of monitoring, parents are more likely to monitor game play for boys and for younger children. Monitoring, as mentioned above, does not have an impact on whether or not teens are exposed to anti-social behavior or words in the gaming context. Among parents of gamers:

- 90% of parents say they always or sometimes know what games their children play.
- 72% say they always or sometimes check the ratings before their children are allowed to play a game.
- 46% of parents say they always or sometimes stop their kids from playing a game.
- 31% of parents say they always or sometimes play games with their children.

Parents of teens who play games are generally neutral on the effect of games on their children, with nearly two-thirds believing that games have no impact one way or the other on their offspring.

- 62% of parents of gamers say video games have no effect on their child one way or the other.
- 19% of parents of gamers say video games have a positive influence on their child.
- 13% of parents of gamers say video games have a negative influence on their child.
- 5% of parents of gamers say gaming has some negative influence/some positive influence, but it depends on the game.

There are civic dimensions to video game play.

This study found that the quantity of game play is not strongly or consistently related to most civic outcomes, but that some particular qualities of game play have a strong and consistent positive relationship to a range of civic outcomes.

[1] Violence level in games is determined by the Entertainment Software Rating Board (ESRB). Here "considerable violence" refers to games rated T, M, or A/O.

The quantity of game play is not strongly related to teens' interest or engagement in civic and political activity.

Neither the frequency of game play nor the amount of time young people spend playing games is significantly related to most of the civic and political outcomes that we examined—following politics, persuading others how to vote, contributing to charities, volunteering, or staying informed about politics and current events. There is little evidence to support the concern that playing video games promotes behaviors or attitudes that undermine civic commitments and behaviors. At the same time, there is little evidence to support the idea that playing video games, in general, is associated with a vibrant civic or political life. The frequency of gaming was related to only two civic and political outcomes—political interest and protesting—with differences only emerging between the highest and lowest frequency of game play.

The characteristics of game play and the contexts in which teens play games are strongly related to teens' interest and engagement in civic and political activities.

Longitudinal and quasi-experimental studies have identified a set of civic learning opportunities (such as simulations of civic or political activities, helping others, and debating ethical issues) that promote civic outcomes among youth. Many of these civic learning opportunities parallel particular elements of video game play. We call these elements of game play "civic gaming experiences," and the survey assesses how many of these experiences teens had. Teens were categorized into three groups—those with the least civic gaming experiences, those with average civic gaming experiences, and those with the most civic gaming experiences. Teens with the most (top 25%) civic gaming experiences were more likely to report interest and engagement in civic and political activities than teens with the fewest (bottom 25%).

Playing games with others in person was related to civic and political outcomes, but playing with others online was not.

Among teens who play games with others in the room:

- 65% go online to get information about politics, compared to 60% of those who do not.
- 64% have raised money for charity, compared to 55% of those who do not.
- 64% are committed to civic participation, compared to 59% of those who do not.
- 26% have tried to persuade others how to vote in an election, compared to 19% of those who do not.

Gaming and Civic and Political Life

Teens who have more civic gaming experiences are more engaged in civic and political life.

	% teens with few civic gaming experiences (bottom 25%)	% teens with average civic gaming experiences (middle 50%)	% teens with frequent civic gaming experiences (top 25%)
Go online to get information about politics or current events	55%	64%*	70*
Give or raise money for charity	51	61*	70*
Say they are committed to civic participation	57	61	69*
Say they are interested in politics	41	56*	61*
Stay informed about political issues or current events	49	59*	60*
Volunteer	53	54	55
Persuade others how to vote in an election	17	23	34*
Participated in a protest march or demonstration	6	7	15*

*Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov. 2007-Feb. 2008. Margin of error is ±3%. * Indicates a statistically significant difference compared with teens with the least civic gaming experiences.*

Teens who take part in social interaction related to the game, such as commenting on websites or contributing to discussion boards, are more engaged civically and politically.

Among teens who write or contribute to these game-related websites:

- 18% have protested in the last 12 months, compared to 8% of those who play games but do not contribute to online gaming communities.
- 38% have tried to persuade others how to vote in an election, compared to 22% of those who play games but do not contribute to online gaming communities.
- 68% have raised money for charity, compared to 61% of those who play games but do not contribute to online gaming communities.
- 67% stay informed about current events, compared to 58% of those who play games but do not contribute to online gaming communities.
- 63% are interested in politics, compared to 54% of those who play games but do not contribute to online gaming communities.
- 74% are committed to civic participation, compared to 61% of those who play games but do not contribute to online gaming communities.

Civic gaming experiences are more equally distributed than many other civic learning opportunities.

Teens in this sample were equally likely to report having civic gaming experiences regardless of race, age, or income. Girls, who play a narrower band of games and spend less time gaming, were less likely to have these experiences. This stands in contrast to findings about the equality of access to civic learning experiences in high schools. Previous research has found that high school civic learning opportunities tend to be unequally distributed, with higher-income, higher-achieving, and white students experiencing more opportunities than their counterparts.[2]

Teens, Video Games, and Civics: Summary of Findings at a Glance
Almost all teens play games.
Gender and age are key factors in describing teens' video gaming.
Youth play many different kinds of video games.
The most popular games played by teens today span a variety of genres and ratings.
Gaming is often a social experience for teens.
Close to half of teens who play online games do so with people they know in their offline lives.
Teens encounter both pro-social and anti-social behavior while gaming.
The most popular game genres include games with violent and nonviolent content.
Parental monitoring of game play varies.
There are civic dimensions to video game play.
The quantity of game play is not strongly related to teens' interest or engagement in civic and political activity.
The characteristics of game play and the contexts in which teens play games are strongly related to teens' interest and engagement in civic and political activities.
Playing games with others in person was related to civic and political outcomes, but playing with others online was not.
Teens who take part in social interaction related to the game, such as commenting on websites or contributing to discussion boards), re more engaged civically and politically.
Civic gaming experiences are more equally distributed than many other civic learning opportunities.
Source: Source: Lenhart, Amanda, Joseph Kahne, Ellen Middaugh, Alexandra Rankin Macgill, Chris Evans, and Jessica Vitak. *Teens, Video Games, and Civics: Teens' gaming experiences are diverse, and include significant social interaction and civic engagement.* Washington, DC: Pew Internet & American Life Project, September 16, 2008.

[2] Kahne, J., and E. Middaugh, "Democracy for Some: The Civic Opportunity Gap in High School," *Circle Working Paper 59* (Washington, DC: Center for Information and Research on Civic Learning and Engagement, 2008).

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Methodology

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About the Pew Internet & American Life Project: The Pew Internet Project is a nonprofit, nonpartisan think tank that explores the impact of the Internet on children, families, communities, the work place, schools, health care and civic/political life. The Project aims to be an authoritative source for timely information on the Internet's growth and societal impact. The Pew Internet Project is nonpartisan and does not advocate for any policy outcome or policy change. The Project is an initiative of the Pew Research Center. Support for the project is provided by The Pew Charitable Trusts. The project's Web site is: http://www.pewinternet.org

About the Civic Engagement Research Group (CERG): CERG is a research organization based at Mills College in Oakland, California, that conducts quantitative and qualitative research focused on youth civic engagement. The group looks at the impact of civic learning opportunities and digital media participation on young people's civic capacities and commitments, as well as civic opportunities and outcomes in public schools. The goal is to develop an evidence base regarding effective civic education practices and policies. Joseph Kahne is currently the Abbie Valley Professor of Education, Dean of the School of Education at Mills College, and CERG's Director of Research. Ellen Middaugh is Senior Research Associate at CERG. Chris Evans is Senior Program Associate at CERG. The research group's website is http://www.civicsurvey.org.

About the MacArthur Foundation: The John D. and Catherine T. MacArthur Foundation supports creative people and effective institutions committed to building a more just, verdant, and peaceful world. With assets of $7 billion, the Foundation makes approximately $300 million in grants annually. Its digital media and learning initiative was launched in October 2007 to help determine how digital media are changing how

young people learn, play, socialize and participate in civic life. More information is available at http://www.macfound.org or http://www.digitallearning.macfound.org.

About Princeton Survey Research Associates: PSRA conducted the survey that is covered in this report. It is an independent research company specializing in social and policy work. The firm designs, conducts, and analyzes surveys worldwide. Its expertise also includes qualitative research and content analysis. With offices in Princeton, New Jersey, and Washington, DC, PSRA serves the needs of clients around the nation and the world. The firm can be reached at 911 Commons Way, Princeton, NJ 08540, by telephone at 609-924-9204, or by email at ResearchNJ@PSRA.com

Introduction

Video games are immensely popular, particularly among teens and young adults. Yet there is much to learn about the content and context of teens' gaming experiences, the mechanics of their play, and the relationships between playing games and a range of academic, social, and civic outcomes.

To date, the main areas of research have considered how video games relate to children's aggression and to academic learning. There has also been limited research on how video games contribute to (or, perhaps, undermine) the civic development of young people. To date, no large-scale national survey has examined the civic dimensions of video games.

The goal of the Gaming and Civics Survey is to provide the first nationally representative study of teen video game play and of teen gaming and civic engagement. To achieve a portrait of teen gaming, the survey looks at which teens are playing games, the games and equipment they are using, the social context of their play, and the role of parental monitoring. To explore the relationship between gaming and civics, the study examines how particular civic gaming experiences and contexts relate to teens' civic activities and commitments. Though arguments have been advanced regarding the civic potential of video games, this is the first large-scale study to examine the relationship between specific gaming experiences and civic outcomes.

Video games: any type of interactive entertainment software; here we use the term "video game" to mean any type of computer, console, online or mobile game.

When Steve Russell wrote the world's first video game in 1961—the two-player spaceship fighter *Spacewar*—he likely had no idea that more than 40 years later, the gaming industry would be an economic juggernaut and entertainment staple for the majority of the U.S. population. By some estimates, industry sales that include consoles, hardware, software, and accessories generated nearly $19 billion in revenue domestically in 2007.[3] Popular video games can gross more than popular film releases: the highly anticipated April 2008 release Grand Theft Auto IV grossed $500 million in its first week of release,[4] more than twice the largest domestic movie premiere to date, Batman: The Dark Knight.[5]

[3] NPD Group, Inc. http://www.npd.com/press/releases/press_080131b.html
[4] http://www.cnn.com/2008/TECH/05/08/gta.sales/index.html
[5] http://www.cnn.com/2008/SHOWBIZ/Movies/07/20/dark.knight.ap/; http://www.suntimes.com/entertainment/movies/1077194,CST-FTR-box28.article

Moving beyond the polarized video game debate reveals a variety of gaming experiences and contexts.

Since their inception, there has been multi-faceted controversy about whether video games are good, bad or benign in their impact on young people. Media watchdogs like the National Institute on Media and the Family warn that video games can foster social isolation, aggressive behavior, and gender bias.[6] Research by psychologists Craig Anderson, Doug Gentile, and Katherine Buckley finds that that violent video games and violent media can normalize violent, aggressive, and otherwise anti-social behavior[7] Researchers at the University of Maryland express concerns that video games may promote gender stereotypes.[8]

Others, like Mark Bauerlein argue that video game culture distracts youth from such disciplined activities as reading that ultimately pay greater dividends.[9] Kaiser Family Foundation data suggests that without counting games played on a computer, online or not, that the average teens spends 49 minutes a day playing console or handheld games and 43 minutes a day reading magazines, books or newspapers.[10] In addition, Robert Putnam, a Harvard professor and author of *Bowling Alone*, notes that traditional social leisure activities like card games have been replaced by electronic versions that lack social interaction.[11] The concern is that youth are spending an increasing amount of their time alone, leaving less time for the social group interactions that develop the civic skills. Not only may youth have less time for civic life, but less inclination to participate.

On the other side of the argument, many scholars dispute the strength of findings regarding the negative impact of video games. Lawrence Kutner and Cheryl Olson, for example, argue that evidence showing video games promote aggression and violence is often exaggerated by those with strong ideological leanings.[12] James Gee adds that "video games are neither good nor bad all by themselves, they neither lead to violence or peace. They can be and do one thing in one family, social, or cultural context, quite another in other such contexts."[13]

Highlighting another facet of the discussion around games, scholars call attention to the "tremendous educative power" games have to integrate thinking, social interaction, and

[6] National Institute on Media and the Family, "Fact Sheet—Effects of Video Game Playing on Children," http://www.mediafamily.org/facts/facts_effect.shtml (accessed July 8, 2008).
[7] Anderson, C., D. Gentile, and K. Buckley, K. *Violent Video Game Effects on Children and Adolescents: Theory, Research, and Public Policy* (New York: Oxford University Press, 2007).
[8] A. Brenick et al., "Social Evaluations of Stereotypic Images in Video Games," *Youth and Society* 38:4 (2007), pp. 395-419.
[9] Bauerlein, Mark, *The Dumbest Generation: How the Digital Age Stupefies Young Americans and Jeopardizes Our Future (Or, Don't Trust Anyone Under 30)* (New York: Penguin Group, 2008).
[10] Rideout, V., D.F. Roberts, and U.G. Foehr, U. G., *Generation M: Media in the Lives of 8 -18 Year-Olds* (Menlo Park, CA: The Henry J. Kaiser Family Foundation, 2005), p. 7.
[11] Putnam, R., *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon & Shuster, 2000), p. 104.
[12] Kutner, L., and C. Olson C., *Grand Theft Childhood* (New York: Simon & Schuster, 2008).
[13] Gee, James, *Why Video Games Are Good for your Soul* (Vancouver: Common Ground Publishing, 2005), p. 5.

technology into the learning experience.[14] Responding, in part, to those who argue that games isolate individuals, Constance Steinkuehler and Dmitri Williams find that games are not necessarily isolating, and can open up new game-based social networks.[15] New media scholars, such as MIT's Henry Jenkins, argue that video games and other forms of digital media have "relatively low barriers to artistic expression and civic engagement."[16]

These debates raise important considerations. They highlight the importance of varied youth gaming experiences and contexts. At the same time, these discussions are often polarized and public consideration of video games' is often framed in terms of video games being "good" or "bad." Lost is attention to the diversity of gaming experiences and the significantly different social contexts that surround game play. Hence, this study explores that diversity of gaming experience and context.

Educational games

Educational games are part of this diversity and now comprise a significant sector of the video game market. These games combine a traditional game's entertainment features with learning objectives. The game franchise Carmen Sandiego, for example, began with a focus on teaching history and geography, later expanding into other subjects, while another game, Lemonade Stand, teaches economic principles through player operation of a lemonade stand. This is an increasingly lucrative part of the gaming market. For example, LeapFrog, a designer of technology-based educational games, reported net sales of $442 million for 2007. [17]

In addition, new media scholars have pointed out the educational potential of a broader group of video games through which players develop valuable social and learning practices. Games scholar David Williamson Shaffer and his colleagues write, "…games bring players together—competitively and cooperatively—in the virtual world of the game and in the social community of its players."[18] Indeed, many games require that youth work together as a team to a far greater degree than when they are working on most classroom assignments. The interactive components of many video games encourage students to take part in the learning process, which turns passive learners into active ones. Furthermore, visual learning through games can help simplify otherwise complex topics, as seen in the success of Kurt Squire's simulation game *Supercharged!* in helping teach students physics.[19]

[14] Shaffer, D.W., et al., "Video games and the Future of Learning," *Phi Delta Kappan* 87:2 (2005), pp. 104-11.

[15] Steinkuehler, C., and D. Williams, "Where Everybody Knows Your (Screen) Name: Online Games as 'Third Places'," *Journal of Computer-Mediated Communication* 11 (2006), pp. 885-909.

[16] Jenkins, H., *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*, White Paper (Chicago: MacArthur Foundation, 2006).

[17] LeapFrog Announces Fourth Quarter and Full Year 2007 Financial Results. Retrieved June 2, 2008 from http://www.leapfrog.com/etc/medialib/leapfrog/corporate/press_releases/2008.Par.18904.File.dat/LF%204Q07%20Earnings%20Release.pdf

[18] Shaffer et al., "Video Games and the Future of Learning."

[19] Squire, K., et al., *Electromagnetism Supercharged! Learning Physics with Digital Simulation Games.* Proceedings of the Sixth International Conference on Learning Sciences, 2004, Santa Monica, CA.

Civics and Game Play

In addition to detailing the form, content, and context of teen video game play, this report examines the relationship between video game play and civic participation. This focus stems in part from concerns voiced by many regarding the civic health of the nation.[20] As a panel of experts convened by the American Political Science Association reported in 2006, "Citizens participate in public affairs less frequently, with less knowledge and enthusiasm, in fewer venues, and less equitably than is healthy for a vibrant democratic polity.[21] And these problems are particularly significant when it comes to youth.[22]

As discussed below, some believe that youth video game play can help respond to these concerns by fostering desired civic outcomes, while others believe that video games may be making matters worse. Prior to this survey, no large-scale quantitative study has examined the relationship between video game play and civic outcomes. Although a nationally representative large-scale correlational study such as this one will not fully resolve the debate regarding the relationship between video game play and civic outcomes, it can inform the dialog around this issue. Specifically, it can provide evidence regarding characteristics of the gaming experience and context that are positively or negatively related to varied civic outcomes. In addition, it can provide indicators of how frequently (or infrequently) young people have these civic gaming experiences and assess the degree to which factors such as race, social class, and gender are related to whether youth have these experiences.

Traditionally, democratic communities have been characterized by face-to-face encounters that bring diverse individuals together in physical places to address shared concerns. Participants negotiate differences and identify common priorities, novices are mentored by more experienced community members, teamwork enables effective coordination of members' varied skills, and collective action addresses shared goals. [23] Some political scientists argue that the growing use of the internet (though not necessarily of video games) is replacing time spent in these types of communities and that the isolating qualities of the internet may undermine the social connections that make such communities possible.[24] Some digital media scholars, on the other hand, argue that video games and the contexts of video game play provide young people with experiences of democratic community. The "new participatory culture," according to Henry Jenkins, "Offers many opportunities for kids to engage in civic debates, to participate in community life, to become political leaders—even if only through the 'second lives' offered by massively multiplayer games or online fan communities…. Expanding

[20] Lopez, M.H., et al., *The 2006 Civic and Political Health of the Nation: A Detailed Look at How Youth Participate in Politics and Communities* (Washington, DC: Center for Information and Research on Civic Learning and Engagement, 2006).
[21] Macedo, Stephen, et al., *Democracy at Risk: How Political Choices Undermine Citizen Participation, and What We Can Do about It* (Washington, DC: Brookings Institution, 2005), p. 1.
[22] Galston, William A., "Political Knowledge, Political Engagement, and Civic Education," *Annual Review of Political Science* 4 (2001), pp. 217-34; Putnam, *Bowling Alone.*
[23] Dewey, J., *The Public and Its Problems* (Athens: Swallow Press, 1927/1954); Dewey, J., *Democracy and Education* (New York: Free Press, 1916).
[24] Putnam, *Bowling Alone;* Nie, N., "Sociability, Interpersonal Relations, and the Internet: Reconciling Conflicting Findings," *American Behavioral Scientist* 45 (2001), p. 420.

opportunities for participation may change their self-perceptions and strengthen their ties with other citizens. Empowerment comes from making meaningful decisions with a real civic context."[25]

Currently, the research that explicitly examines the civic and political outcomes related to video game play is in its infancy. Professors Sasha Barab and Kurt Squire have examined the use of entertainment video games like *Civilization III* for educational purposes in social studies classrooms and found that it boosted student interest in historical topics while deepening students' appreciation for the ways varied factors such as geography and economics were related to particular historical outcomes.[26] However, most video game play does not happen in the classroom, and there is limited evidence regarding whether games, as they are typically played, provide experiences that translate into participation in a democratic community or promote real-world civic and political participation. Digital media scholars such as Constance Steinkuehler and Dmitri Williams argue that some types of games, like massive multiplayer online games (MMOG), can and often do promote social capital and, in particular, expose players to a diverse range of worldviews.[27]

Gaming and Civics Research Topics

This study explores three key topics with respect to teens' civic lives. First, it looks at the quantity of game play. Political scientists have raised the concern that technology and other forms of entertainment are replacing time people used to spend involved in community activity.[28] Given this possibility, the project investigated whether the total amount of video game play has any relationship to teens' level of civic and political engagement. The Gaming and Civics Survey also asks whether teens who play games every day spend more or less time involved in such civic and political activities as volunteering, following politics, protesting, etc. The project also examines whether teens who spend a large amount of time playing games are more or less likely to be interested in and committed to civic and political participation.

Second, the survey explores the civic characteristics of game play by looking at the qualities of these experiences. Research finds that certain classroom-based civic learning opportunities—e.g., simulations of civic processes, volunteerism, discussion of controversial issues, youth voice, membership in extracurricular groups, and opportunities to learn about history, government, law, and economics — appear to foster desired civic outcomes even after controlling for prior civic commitments and demographics. Many experiences in game play are similar to these classroom-based civic learning opportunities. Those playing games often simulate civic action, help or guide other players, participate in guilds or other groups associated with the game, learn about

[25] Jenkins, *Confronting the Challenges of Participatory Culture*.
[26] Squire, K., and S. Barab, "Replaying History: Engaging Urban Underserved Students in Learning World History through Computer Simulation Games," *International Society of the Learning Sciences* (2004), pp. 505-12.
[27] Steinkuehler and Williams, "Where Everybody Knows Your (Screen) Name."
[28] Putnam, *Bowling Alone;* Nie, "Sociability, Interpersonal Relations, and the Internet."

social issues, and grapple with ethical issues. In this report, these activities are defined as *civic gaming experiences*. This survey assesses how often teens have civic gaming experiences, which youth have these experiences, and whether these experiences are related to more (or less) real-life civic and political engagement.

Third, the project looks at the social context of game play. Political scientists and sociologists have found that social interaction around shared interests can build social networks and social skills that foster civic and political engagement.[29] Digital media scholars note that game play can vary considerably both in how much it promotes social contact between players and in the different ways it connects people (both online and in person).[30] This survey also considers the social activities around game play—both online and in person—and how they relate to civic and political engagement. Finally, the study looks at how often youth have social interactions around the games they play (e.g., online discussions about a game) and how these interactions relate to civic and political outcomes.

The goal of this research is to provide the public—from parents to policymakers—with a broad understanding of teen gaming today and how variations in that play relate to an individual's level of civic and political engagement. Further, the survey expands our collective knowledge about the kind of civic gaming experiences teens have and how those experiences relate to political and civic engagement.

Before presenting the findings, a caveat is necessary. While this study can identify relationships between civic gaming experiences and civic outcomes, the cross-sectional data collected in this survey cannot tell us if these experiences caused civic and political engagement. Experimental and longitudinal data are needed to establish causal relationships between civic gaming experiences and civic outcomes. It may be that gaming experiences promote civic engagement. Many civically oriented gaming experiences parallel classroom based civic learning opportunities that have been shown to foster desired civic outcomes. But, in this case, causality may flow the other way as well. Youth who are more civically interested and engaged may well seek out games that provided civically oriented experiences. Thus, while analysis of this data can inform the burgeoning conversation regarding video games and civic development, more work in this area is needed to understand many of the relationships described in the report that follows. For more in-depth analysis of the civic engagement questions covered in this report, please see the white paper titled "The Civic Potential of Video Games" at http://www.civicsurvey.org/White_paper_link_text.pdf.

[29] Putnam, *Bowling Alone;* Smith, E.S., "The Effects of Investment in the Social Capital of Youth on Political and Civic Behavior in Young Adulthood: A Longitudinal Analysis," *Political Psychology* 20 (1999), pp. 553-80; McFarland, D. A., and R.J. Thomas, "Bowling Young: How Youth Voluntary Associations Influence Adult Political Participation, *American Sociological Review* 71 (2006), pp. 401-25.

[30] Steinkuehler and Williams, "Where Everybody Knows Your (Screen) Name."

Part 1. Section 1.

Who Is Playing Games?

Video gaming is so widespread among American teenagers that to paint a portrait of a typical teen gamer is to hold a mirror to the population of teens as whole. Nearly every teen plays games in some way, regardless of gender, age, or socioeconomic status. Opportunities for gaming abound, with teens owning multiple gaming devices themselves and playing games on devices owned by friends where they lack personal access. Not only is access to games ubiquitous, but game play is frequent, part of a typical daily experience for half of all teens. And if a teen is playing games on a particular day, he or she is likely to spend nearly an hour playing them. Understanding the nature of game play is vital to understanding how nearly every American teen spends at least a part of many of their days.

Virtually all teens play games.

Nearly all American teens—97%—ages 12-17 play computer, web, console, or mobile games. Teens are also playing these games with relative frequency and duration. Nearly one-third (31%) of teen gamers play games every day, and another one in five (21%) play games three to five days a week.

Half of teens who play games do so on any given day.

In addition to asking teens how frequently they play games during the week, the Pew Internet Gaming and Civics Survey asked game-playing teens whether or not they played games "yesterday," and if so, for how long. On any given day, 50% of teen gamers report playing games. About half of those who did play a game "yesterday" (or 24% of all teen gamers) say they played for up to an hour. Another 13% of teen gamers say they played for two hours, and 13% say they played for three hours or more. Race, ethnicity, and family income do not make a difference in the length of time teens spend gaming.

Half of Gaming Teens Played Games "Yesterday"; Boys Play Longer Sessions

Thinking about yesterday, about how many hours would you say you spent playing games yesterday?

	% of teen gamers	% of boy gamers	% of girl gamers
Did not play games "yesterday"	50%	40%	61%
1 hour	24	26	22
2 hours	13	15	10
3 hours	6	8	4
4 or more hours	7	11	3

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007-February 2008. Margin of error is ±3%.

Almost all girls and boys play video games. Boys report playing games more often and for longer periods of time than girls.

The stereotype that only boys play video games is far from true in 2008, as girls constitute a large (if not equal) percentage of total gamers: 99% of boys play games, as do 94% of girls. While almost all girls as well as almost all boys play video games, boys typically play games with greater frequency and duration than girls. Boys are significantly more likely to play games daily than girls, with 39% of boys reporting daily game play and 22% of girls reporting the same. Boys are also more likely than girls to play games on any given day (60% of boys did, compared with 39% of girls), and when boys do play, they're playing for longer periods of time. Among teens who played games "yesterday," boys and girls are just as likely to report that they played for an hour or less. Boys, however, are twice as likely to report playing for two hours or more each day, with 34% of boys playing for two hours or more per day; 18% of girls play games for that amount of time.

Boys Game More Frequently

About how often do you play games?

	All teen gamers	Boy gamers	Girl gamers
Several times a day	13%	19%	6%
About once a day	18	20	16
3 to 5 days a week	21	27	15
1 to 2 days a week	23	23	22
Every few weeks	15	8	23
Less often	10	4	17

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007- February 2008. Margin of error is ±3%.

Younger teens are the most avid gamers.

The age of the teen is also an important variable in predicting game play frequency and duration, as well as the types of games played and experiences during game play. Unlike most other online or digital activities—where older teens are more likely to engage in an activity—older teens are less likely than younger teens to play games on a typical day. More than half (54%) of 12- to 14-year-olds played games yesterday, whereas 46% of 15- to 17-year-olds did so.

Broadband users are slightly more likely to play for longer periods of time than teens who reside in homes without broadband.

While dial-up and broadband users are equally likely to play games for about an hour, broadband users are more likely to report playing for two hours; 14% reporting game play for that long on a typical day, compared with just 8% of dial up users who played for two hours "yesterday." Overall, 28% of broadband users play games for two hours or more on a typical day, while 20% of dial up users do the same.

The daily gamer: Young, male, and playing games online[31]

With the public debate about the potential positive and negative implications of game play as a backdrop, this report set out to unpack information about teens who play games frequently and who are thus exposed more often to the effects of video games. Who are these frequent gamers?

More than three in ten (31%) teens say they play games on daily basis. Teens who game daily are largely boys—65% are male, 35% are female. These gamers also skew younger: 57% of those who play games every day are ages 12-14, and the remaining 43% of daily gamers are ages 15-17. Daily gamers are more likely to play on a portable gaming device (73% of daily gamers use a portable, compared with 57% of those who play less often), and are just as likely as other gamers to play on computers, consoles, or on a cell phone.

Daily gamers are more likely to report that they play games online and that they play games with other people over the internet. Daily gamers are more likely than other gamers (20% vs. 12%) to say that they "most often" play games with others they are connected to by the internet. In a related finding, daily gamers are also more likely to report playing games as a part of a guild or group (50% of daily gamers have done so, compared with 38% of less frequent players). Daily gamers are also slightly more likely to play games alone (87% vs. 79%) than those who game less often, but are equally as likely as any other gamer to play games with people in the same room. Daily gamers are

[31] The "daily gamer" analysis is based on question K18, "About how often do you play games?"

more likely to play games with both people they first met in person and people they first met online than other gamers.

Frequent game players are not socially isolated.

Traditionally, the image of a gamer is that of a loner who prefers spending his or her time playing video games over spending time with friends. Our survey refutes this stereotype, revealing that the most avid, frequent gamers are just as communicative and socially engaged as less-active gamers. The one exception is text messaging: daily gamers are somewhat less likely than those who play less often to send or receive text messages daily as a way of communicating with friends. Gamers do send texts, but are less likely to do so on a daily basis than those who game less often; 32% of daily gamers send text messages to their friends every day, while 41% of gamers who play less often text friends daily.

Beyond text messaging, however, daily gamers are just as likely as teens who game less frequently to use other methods to communicate with friends (landlines, cell phone, IM, email, and social network messaging) and to spend time with friends face–to-face.

Daily and Less-Frequent Gamers Exhibit Similar Trends in Technology Ownership and Interaction Methods

Percentage of teens owning the following devices:

	Daily Players	Less Frequent Players
Cell phone	68%	72%
Desktop or laptop computer	58	62
iPod or MP3 player	72	76
Game console	86	77
Portable gaming device	67	52
Percentage of teens that interact with friends on a daily basis via…		
Spending time with friends in person outside of school	30%	29%
Talking to friends on a landline/home phone	33	31
Sending text messages	32	41
Talking to friends on your cell phone	50	51
Sending instant messages	27	26
Sending email	17	15
Sending messages through social networking sites	46	41

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007-February 2008. Margin of error is ±3%.

Part 1. Section 2.

Basic Gaming Hardware and Games Played

Beyond a general sense of who plays games, it is important to understand how games are played—what types of hardware and software are used and in what type of social, solitary, or academic settings games are played. Each gaming device offers a variety of opportunities for game play. Different games, sometimes with different ratings for the same game, are offered on various brands and platforms. And different games provide players with a number of ways in which to play with other people, either through dual controllers, Bluetooth links, or connections forged over the internet.

What devices do teens use to play games?

There are a variety of devices and modes of game play. Games may be played on personal computers, on dedicated gaming consoles attached to a television (many of which now have as much processing power as a desktop machine), on cell phones, or on dedicated handheld gaming devices like the PSP or the Nintendo DS systems. Why does this matter? Different games are available on different devices, and more importantly for regulators and parents, different ratings apply to games played in certain environments. Ratings apply to console, dedicated handheld gaming devices, and most computer-based games but are often not given to web-based games, MMOGs, or games played on cell phones. Also, depending on the age of the device a gamer uses, some gaming platforms can connect to the internet.

Consoles are the most common way to play games.

The largest group of teens—86%—plays games on a console, devices such as the Xbox, PlayStation, and Wii. Boys and younger teens are much more likely to play games on a console: 96% of boys have ever played games on a game console, compared with 76% of girls. Younger teens are also more likely to use a game console to play games, with nearly nine in ten (89%) teens ages 12-14 playing games on a console, compared with 83% of older teens.

Consoles Are the Most Common Gaming Device among Teens

Do you ever use any of the following to play games?

	% of all teens
Game console	86%
Desktop or laptop computer	73
Portable gaming device	60
Cell phone or handheld organizer	48

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007- February 2008. Margin of error is ±3%.

Among older teens, 94% of older boys play games on a console, compared with 71% of older girls. Among younger teens, 97% of boys ages 12-14 play games on a console, compared with 81% of girls the same age. Owning a console is not a prerequisite for playing games with one, as many teens use consoles at friends' and relatives' houses—87% of teens who play games on a console own one; 13% of console gamers do not own a console.[32] Console ownership does not necessarily match with computer ownership, either. A bit less than one in ten (7%) teens who play games on consoles do not have a computer at home, and another 4% have a computer at home that is not connected to the internet.

Gender Differences among Gaming Devices

Do you ever use any of the following to play video games?

	All teens	Boys	Girls
A game console such as an Xbox, PlayStation, or Wii	86%	96%	76%
A portable gaming device such as a PSP, DS or Game Boy	60	67	53
A desktop or laptop computer	73	74	73
A cell phone or handheld organizer	48	43	53

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007- February 2008. Margin of error is ±3%.

Personal computers are used equally by all groups for game play.

The next most popular vehicle for game play is the personal computer. Nearly three-quarters (73%) of teens play games on a laptop or desktop computer. Computers are also the most broadly used gaming device; in contrast to use of consoles and handheld gaming devices, there is no gender or age variation in game play on a computer—girls and boys,

[32] This number may also be higher because of the way in which the survey question was asked, and teens are more likely to be assigned "ownership" of a game console in a household than they would be said to "own" a personal computer.

younger and older teens are all equally likely to play games using a desktop or laptop computer. Fully 85% of teens who own a desktop or laptop computer say they play games on it.

Younger teens are the most likely to play on portable gaming devices.

As portable gaming devices grow more sophisticated and cell phone ownership percolates through the teen population, gaming is increasingly going mobile. Portable gaming devices are predominantly the province of the younger set. Six in ten (60%) teens play games on a portable gaming device like a PSP, DS, or Game Boy. Younger teens are much more likely than older teens to play games on a portable gaming device, with younger boys leading the pack. Overall, more than seven in ten (71%) teens ages 12-14 play games on a portable device, compared with just under half (49%) of teens ages 15-17. Boys are also more likely to play games on a portable device, with 67% of boys and 53% of girls reporting such behavior. Younger boys are particularly enthusiastic users of portable gaming devices, with 77% of boys ages 12-14 reporting using a PSP, DS, or other portable device, compared with 65% of younger girls.

Girls and black and lower-income teens are more likely to use cell phones to play games.

The other types of technologies facilitating mobile gaming are cell phones, handheld organizers (PDAs), and other portable devices not purpose-built for gaming. Just about half of teens (48%) say they have played games on a cell phone or PDA,[33] and in contrast to consoles and portable gaming devices, girls are more likely to report gaming on a cell phone than boys. Girls are more likely than boys to play games on these devices—53% of girls play games on cell phones, compared with 43% of boys. Age is not a factor in whether a given teen plays games on cell phones. Cell phone ownership is not a requirement for playing games with them, as 21% of teens who play games on cell phones do not have one of their own. Girls and boys are equally likely to own a cell phone.

There is no difference in the devices a teen uses to play games by race/ethnicity or socioeconomic status, with the exception of cell phone games. Black teens and lower-income teens are more likely than Hispanic, white, or higher-income teens (families earning $30,000 or more per year) to say they play games on cell phones. Notably, there are no statistically significant differences in cell phone ownership by race or ethnicity. However, teens from families earning more than $75,000 annually are more likely to own a cell phone (79% vs. 63%) than teens from families earning less than $50,000 a year.

[33] The wording for this question is, "Do you ever use a cell phone or handheld organizer to play games, whether or not you personally have one?"

Major Video Game and Handheld Consoles				
Console Name	**Manufacturer**	**U.S. Release**	**System Highlights***	**Popular Games**
PS2	Sony	2000	Sony's second system proved even more successful than the first, with more power and a DVD player selling over 100 million units.	Grand Theft Auto series; Gran Turismo series
Xbox	Microsoft	2001	Microsoft's first venture into the hardware industry had many computer-like attributes and has sold more than 24 million units.	Halo series; Tom Clancy's Splinter Cell; Madden NFL
DS	Nintendo	2004	Nintendo's latest handheld offered players two screens, one which is touch sensitive. The DS and DS Lite have sold more than 21 million units since launch.	Nintendogs; Pokemon; Brain Age
PSP	Sony	2005	Sony's response to the DS focused more on power than innovation, and sales have held strong at more than 20 million units.	Grand Theft Auto: Vice City Stories; Monster Hunter
Xbox360	Microsoft	2005	Xbox was the first to strike in the newest generation of gaming consoles. The 360 offered online gaming through Xbox Live and has sold 19 million units worldwide.	Halo 3; Gears of War; Call of Duty 4
PS3	Sony	2006	The most advanced and highest priced of the newest batch of consoles, the PS3 allows you to play Blu-Ray movies. Thus far, PS3 sales globally have passed 12 million.	MotorStorm; Resistance: Fall of Man; Grand Theft Auto IV
Wii	Nintendo	2006	Offering innovation over sheer power, the Wii gives players a motion-sensitive controller and focuses on games that are fun, social and active, rather than intense. The Wii has sold more than 25 million units globally.	Wii Play; Super Mario Galaxy; Super Smash Bros. Brawl

** An expanded version of this table is available in Appendix 1. Data regarding the number of consoles sold (with the exception of the Xbox 360, PS3 and Wii) comes from an online Business Week slideshow, "A Brief History of Game Console Warfare." Available online at http://images.businessweek.com/ss/06/10/game_consoles/source/1.htm. Data on the three most recent systems comes from a May 22, 2008 article in DailyTech, available online at http://www.dailytech.com/Microsoft+First+to+100+Million+Consoles+Sold+Wins+War/article11792.htm.*

Most teens own multiple gaming devices.

Games today can be played through a number of platforms—consoles, portable devices, computers, and cell phones—and teen ownership of these devices is increasing. While it is important to note that ownership does not equal use, ownership rates are still worth discussing. Of the four gaming devices referenced, six in ten (60%) teens own three or four devices, while just 14% own zero or one device. Furthermore, daily gamers are more likely to own all four devices when compared with non-daily gamers (34% vs. 23%).

All of the gaming devices mentioned in our survey—computers, consoles, handheld gaming devices, and cell phones—can be connected to the internet, and more than three-

quarters (76%) of teens connect them and play games online. Teens are equally likely to play online games, regardless of the devices they own. Younger teens are more likely to play games online, regardless of platform. Eight in ten (80%) teens ages 12-14 play games online, compared with 72% of older teens. Boys are also slightly more likely to play games online than girls, with 79% of boys gaming online, compared with 73% of girls. The low number of girls is mostly a factor of the lower levels of online game play among older girls, with 66% of them playing online, compared with 80% of girls ages 12-14. Race and income are not factors in online game play.

Teens play many different types of games.

Today's gaming marketplace teems with different kinds of games. Trying to bring order to the gaming space by classifying games into genres is a tricky business. Lack of consistency within the gaming industry and among academics who study gaming complicates a game design space that increasingly focuses on games that cross genres or do not fit neatly into any existing category. To devise our genre list, we consulted with industry and academic experts and harmonized their responses into one master list of 14 genres. Because of the ambiguity and lack of consistency in genre labeling of games, genre data here tells us more about how gamers think of themselves in the context of games than exactly which games they play.

Game Genres in Order of Popularity

What kinds of games do you play? Do you play…?

Genre (Examples)	Teens who report playing games in this genre
Racing (NASCAR, Mario Kart, Burnout)	74%
Puzzle (Bejeweled, Tetris, Solitaire)	72
Sports (Madden, FIFA, Tony Hawk)	68
Action (Grand Theft Auto, Devil May Cry, Ratchet and Clank)	67
Adventure (Legend of Zelda, Tomb Raider)	66
Rhythm (Guitar Hero, Dance Dance Revolution, Lumines)	61
Strategy (Civilization IV, StarCraft, Command and Conquer)	59
Simulation (The Sims, Rollercoaster Tycoon, Ace Combat)	49
Fighting (Tekken, Super Smash Bros., Mortal Kombat)	49
First-Person Shooters (Halo, Counter-Strike, Half-Life)	47
Role-Playing (Final Fantasy, Blue Dragon, Knights of the Old Republic)	36
Survival Horror (Resident Evil, Silent Hill, Condemned)	32
MMOGs (World of Warcraft)	21
Virtual Worlds (Second Life, Gaia, Habbo Hotel)	10

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Teens who play games n=1064. Margin of error is ±3%. Note: games listed in parenthesis were provided to respondents on an as-needed basis by interviewers; not every respondent received the prompts.

As the data suggest, many teens play a wide variety of genres, though differences exist in the likelihood of various demographic groups playing a particular type of game.

Most teens play a variety of different game genres.

Most teens do not limit themselves to just a few game genres, instead choosing to play many different types of games. Fully 80% of teens play five or more different game genres, and 40% play eight or more types of games. Daily gamers are more likely to play a wider range of game genres than non-daily gamers: while 55% of daily gamers play eight or more types of games, just 33% of non-daily gamers do so.

Teens Play Multiple Genres of Games

The percentage of teens who play multiple genres

Genres	Daily Gamers	Non-Daily Gamers	All Gamers
1-4	12%	24%	20%
5-8	50	53	52
9-12	39	24	28

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007- February 2008. Margin of error is ±3%.

There are differences by race/ethnicity in the types of games played.

Among gaming teens, there are some differences by race or ethnicity in the types of games played. Black teens are more likely to report playing racing games than white or Hispanic teens and are more likely to play sports and adventure games than white teens (though not Hispanic youth). Black and Hispanic teens are more likely than white teens to play fighting games and survival horror games. White and Hispanic teens are more likely to play rhythm games than black teens. White youth are more likely to play MMOGs than black teens (but not Hispanic teens).

Lower-income teens more likely to play certain game genres.

Lower-income teens from families earning under $50,000 per year are more likely than higher-income teens to play racing games (80% vs. 70%), adventure games (72% vs. 63%), or survival horror games (40% vs. 28%).

Boys are more likely to play most game genres.

Boys are more likely than girls to be intensive gamers—playing on a daily basis for a relatively long duration—and are also more likely than girls to play a wider variety of genres. Girls and boys are equally likely to play racing games (77% of boys and 71% of girls), rhythm games (58% of boys and 64% of girls), simulation games (46% boys vs.

52% girls play them), and virtual worlds (11% of boys and 10% of girls). Girls are more likely to report playing puzzle games than boys—with 87% of girls playing them, compared with 58% of boys. However, boys are more likely to play all other game types.

Boys Play a Wider Variety of Game Genres than Girls

What kinds of games do you play?

	% boy gamers	% girl gamers
Boys more likely to play		
Action games	84%*	48%
Sports games	80*	55
Adventure games	75*	57
First person shooters	74*	17
Fighting games	67*	29
Strategy games	63*	55
Role-playing games	45*	26
Survival horror games	45*	18
Massive multiplayer online games	30*	11
Girls more likely to play		
Puzzle games	58%	87%*
Equally likely to play		
Racing games	77%	71%
Rhythm games	58	64
Simulations	46	52
Virtual worlds	11	10

*Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007- February 2008. Margin of error is ±3%. * **Indicates** statistically significant differences between the percentages in the row.*

Girls play a narrower variety of games than boys do. Girls report playing an average of just under six game genres, while boys average eight genres of games played. The difference in the percentages of girls and boys who play certain games varies by genre. Sports, adventure, strategy, and role-playing games have relatively smaller gender differences around game play. Genres like first-person shooters, fighting games, survival horror games, and action games show much larger differences between the percentage of boys and girls who play them.

Younger teens are also more likely than older teens to play certain kinds of games. Teens ages 12-14 are more likely than their older counterparts to play sports games (72% vs. 64%) and adventure games (71% vs. 61%).

Frequent Gamers Are More Likely to Play Certain Types of Games

What kinds of games do you play?

	Daily gamers (n=320)	Teens who play games less often (n=744)
Frequent gamers are more likely to play		
Action games	80%	61%*
Adventure games	77	61*
Fighting games	64	42*
First-Person Shooter	64	39*
Role Playing games	53	29*
Horror games	44	27*
MMOGs	34	15*
Virtual Worlds	16	8*
Frequent gamers are equally likely to play		
Strategy games	63%	58%
Simulation games	50	48
Sports games	71	67
Racing games	72	75
Rhythm games	57	63
Frequent gamers are less likely to play		
Puzzle games	67%	74%*

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007- February 2008. Margin of error is ±3%. *** Indicates statistically significant difference between the percentages in the row.***

Frequent gamers play a similar range of game genres as boys.

As with differences observed between boys and girls, those teens who play video games daily are more likely to play most game genres, and these frequent gamers' most popular genres are—for the most part—similar to those of boys' most popular genres. Daily gamers are more likely than less-frequent gamers to play action, adventure, fighting, first-person shooter, role-playing, and horror games, as well as MMOGs. However, daily and less-frequent gamers are equally likely to play sports and strategy games, whereas boys are more likely to play these genres than girls. Furthermore, daily gamers are more likely to participate in virtual worlds, whereas no differences exist across gender.

Younger teens are more likely to leap into virtual worlds.

Virtual worlds are persistent online play spaces which allow the users to determine the direction of game play. Overall, 10% of all American teens visit virtual worlds—places like Second Life, Club Penguin, and Whyville. There are no gender, racial, or ethnic differences in who visits virtual worlds. However, younger teens are more likely to have visited virtual worlds than older teens, with 13% of 12- to 14-year-olds visiting them,

compared to just 8% of teens ages 15-17. Teens who play games daily are also more likely to visit virtual worlds (16%) than teens who play games weekly or less often (8%).

What are massive multiplayer online games?

Massive multiplayer online games (MMOGs)—also sometimes called massive(ly) multiplayer online role-playing games—are online game spaces where multiple individuals can play a game together. While gamers can go anywhere within the digital world of an MMOG, the game developer has determined the direction and goals of game play. MMOGs may be played solo but are often played in groups of individuals who band together to form a "guild" to take on a task, goal, or quest together. MMOGs are also persistent spaces where game play continues to move forward even when an individual or group of players is not playing the game.

Three in ten gaming boys play MMOGs.

One in five (21%) teens who play video games play MMOGs. Boys are much more likely to play MMOGs than girls. Nearly one-third (30%) of boys who game have played a MMOG, compared with 11% of gaming girls. There are no statistically significant differences in MMOG play by age; younger teens and older teens are just as likely to report playing them.

Gamers who play MMOGs are more likely to play games on a daily basis and more likely to play for longer periods of time. Just 45% of gamers who do not play MMOGs say they played any games "yesterday," while 70% of MMOG players played some form of video game the previous day. While equal percentages of players from MMOG and non-MMOG groups say they played for about an hour "yesterday" (26% of MMOG players and 23% of those who do not play them), more than one in five MMOG players played for two hours "yesterday," compared with just 11% of other players. Fully 11% of MMOG players reported playing for three hours "yesterday," compared with 5% of non-MMOG gamers. Overall, 23% of MMOG players played for three hours or more "yesterday," compared to 10% of those who do not play MMOGs.

What are the most popular game titles?

In this survey, we asked teens about game genres they like to play, as well as their current top three favorite games,[34] in order to have multiple dimensions on which to map out the kinds of games teens are playing today. Of the 647 games mentioned in the survey (representing 2618 total responses from participants), 510 are rated games, 78 are unrated

[34] Because the "top three favorite games" question was open-ended, we had to code the different responses in order to make sense of the data. We examined and counted the game titles that teens provided; coded these responses to determine the most popular games in the survey; and separated out the rated games from the online and computer games that are not regulated by the Entertainment Software Ratings Board.

online cell phone or computer games, and 59 are unidentifiable.[35] There are 33 mentions of game genres, where teens gave a general category of games such as sports or racing games, rather than naming a specific title. Most of the ten most frequently mentioned games in the survey can be classified into multiple genres—rhythm, sports, puzzles, and simulation, to name a few. These top games also show that there are many popular video games that are not simply violent first-person shooters.

10 Most Frequently Mentioned Games

What are your current top three favorite games?

Game Title	Number of mentions
Guitar Hero	158
Halo 3	104
Madden NFL	77
Solitaire	65
Dance Dance Revolution	60
Madden NFL 08	59
Tetris	59
Grand Theft Auto	58
Halo	57
The Sims	54

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%. For further information about how the game titles were coded and counted, please see the Methodology section. A total of 2618 games were mentioned.

After noticing that two game franchises[36] appeared on the top games list twice (Halo and Madden), we also reviewed the five most popular game franchises.

5 Most Frequently Mentioned Game Franchises

What are your current top 3 favorite games?

Game Franchise	Number of mentions
Guitar Hero (any version)	215
Halo (1, 2, or 3)	207
Madden NFL (any year)	160
The Sims franchise (Sims, Sims Pets, SimCity)	77
Grand Theft Auto (any version)	72

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%. For further information about how the game titles were coded, please see the Methodology section. A total of 2618 games were mentioned.

[35] Some titles we could not decipher, did not exist in the ESRB database, the ESA spreadsheet, and were not Google-able. Other titles were ambiguous and could point to different games. For instance, "hearts 2" could be a second electronic version of the card game "Hearts," or it could refer to "Kingdom Hearts 2."

[36] Franchise refers to multiple games with similar or the same title, all building off the same general narrative, general game mechanic (or mode of game play), and overall brand. Examples include the Madden NFL franchise, the Grand Theft Auto franchise (I-IV), and the Halo (1-3) franchise.

Profiles of Top Game Franchises

Guitar Hero

The Guitar Hero franchise, currently comprising six games, enables players to live out their rock star dreams of playing in their favorite band. Players use a guitar with five buttons for the notes; the goal of the game is to play along with the song by hitting the correct note sequence provided during the song. Originally available only for the PlayStation 2, the game can now be played on PlayStation 3, Xbox 360, Wii, and Nintendo DS.

Teens from affluent households are more likely to report playing Guitar Hero than their less-well-off peers. Almost one-quarter (24%) of teens in households that earn $50,000 or more per year play Guitar Hero, compared with 14% of teens in households that earn less than $50,000. Neither gender nor frequency of game play has any impact on whether a teen plays the game.

Halo

In the third installation of this tremendously popular science fiction series, players continue their journey through a futuristic world in the ultimate battle to save mankind. A first-person shooter, the game allows for solo and multiplayer game play and can be played on the Xbox/Xbox 360 or on a PC. Halo 3 was one of the most anticipated games of 2007 and sold 3.3 million copies in its first 12 days on sale in the U.S.[37] *Time* awarded it "Game of the Year" for 2007.

Boys are overwhelmingly more likely to play a game in the Halo series than girls. Fully 30% of boys play Halo, compared with 5% of girls. Household income, parent education levels, and age do not affect the likelihood of a teen playing one of the Halo games. However, daily and weekly video game players are more likely to play this game than teens who play games less frequently.

Madden

One of the longest-running series of games in history, the Madden NFL games can be found on nearly every game platform available. In the games, players choose from among current NFL football teams and play opponents, choosing the types of offensive and defensive plays their team makes. Teams are comprised of real NFL players and reflect trades and acquisitions in each new season. Newer incarnations of the game allow for multiplayer games, quick games, full seasons, or multiple seasons of play.

[37] Richtel, M., "The Halo over Xbox 360," *The New York Times* (October 27, 2007), retrieved July 10, 2008, from http://query.nytimes.com/gst/fullpage.html?res=9C03E5DA1638F931A15753C1A9619C8B63.

Boys are the primary players of the Madden franchise of games. Fully 28% of boys in the survey say they play Madden, compared with just 2% of girls. Age and income do not impact whether a teen will play Madden, but frequent game players are more likely to play Madden than less-frequent gamers: one-fifth (21%) of daily gamers play Madden, compared with 16% of weekly gamers and 9% of teens who game less frequently.

The Sims

The best-selling PC game in history, with more than 100 million units sold,[38] The Sims franchise is a series of simulation games that allows players to create characters and worlds and control those characters' actions as they move around that world. Players can also purchase numerous expansion packs that include new characters, objects, and locations. While the game has been adapted for play on several consoles, the PC version remains the most popular.

Unlike Halo and Madden, girls are more likely to play The Sims than boys. Fully 15% of girls play the Sims, compared with 1% of boys. As with Halo and Madden, age and income do not play a part in determining whether a teen will play the Sims.

Grand Theft Auto

Surrounded by controversy over its gratuitous violence and adult content, the Grand Theft Auto (GTA) series remains one of the most popular games in history. Players lead their character around the fictional Liberty City and attempt to rise through the ranks of the criminal underworld. The series' most recent release, GTA IV, sold six million copies during its first week of release in April 2008.[39] Several of the games are available on both the Xbox and PlayStation consoles, and Nintendo announced in July 2008 that it would release a version of the game on its DS system.[40] However, this survey was administered prior to the release of the newest Grand Theft Auto.

Boys and girls are equally likely to play GTA, but older teens (ages 15-17) are marginally more likely to play GTA than younger teens (ages 12-14).

The average rating for teens' favorite games is just above a Teen rating.

In addition to identifying how frequently each game title was mentioned, we also looked at how these games are rated by the Entertainment Software Ratings Board (ESRB), the

[38] Schiesel, S., "Exploring Fantasy Life and Finding a $4 Billion Franchise," *The New York Times* (April 16, 2008), retrieved July 10, 2008, from http://www.nytimes.com/2008/04/16/arts/television/16sims.html?_r=1&scp=2&sq=Electronic%20Arts%20Sims%20100%20million&st=cse&oref=slogin

[39] http://www.nytimes.com/2008/05/07/technology/07game.html?scp=2&sq=GTA%20IV%206%20million&st=cse

[40] Pham, A., "Nintendo Unveils Wii Music Game and Grand Theft Auto for DS," *Los Angeles Times* (July 15, 2008), retrieved July 17, 2008, from http://latimesblogs.latimes.com/technology/2008/07/nintendo-unveil.html

organization that assigns ratings to video games that states how old an individual must be to buy certain games. The ratings range from EC (every child) to AO (adult only).[41]

The average game rating for the survey (for those games that are rated) is 2.08, an E10+ rating. However, the average game rating for the top ten games is 2.32, which is between E10+ and T. The mean "average game rating" per respondent for their three favorite games is 3.199—which is a bit more than the T rating and indicates games that are appropriate for teens ages 13 and above.[42]

Entertainment Software Rating Board's Current Rating System

Rating Name	Rating Code	Description of Rating	Example
Early Childhood	EC	These games may be suitable for players ages 3 and older and contain no inappropriate content.	Dora the Explorer: Dance to the Rescue
Everyone	E	These games may be suitable for players ages 6 and older. These games contain a minimum level of cartoon, fantasy or mild violence; mild language; and/or suggestive themes.	Madden NFL
Everyone 10+	E10+	These games may be suitable for players ages 10 and older. These games may contain higher levels of cartoon, fantasy or mild violence; mild language; and/or suggestive themes than games rated E.	NHL 2K8
Teen	T	These games may be suitable for players ages 13 and older. These games may contain violence, suggestive themes, crude humor, minimal blood, simulated gambling, and/or occasional occurrences of strong language.	Guitar Hero series
Mature	M	These games may be suitable for players ages 17 and older. These games may contain intense violence, blood and gore, sexual content and/or strong language.	Halo series
Adults Only	AO	These games should only be played by those ages 18 and older. These games may contain prolonged scenes of intense violence and/or explicit sexual content and nudity.	Grand Theft Auto: San Andreas

Source: ESRB Game Ratings and Descriptor Guide.

[41] When we started to identify the ESRB ratings for each game, we discovered that a single game can have multiple ratings based on the device on which it is played (e.g., The Sims 2 is rated E10+ (Everyone 10+) on the Nintendo DS, but T (Teen) on the Sony PSP, suggesting that the game contains different content on different platforms). Over a hundred games listed in the survey have multiple ratings. We realized that we had no way of identifying which version of the game each teen played. Even though we asked teens in the survey what gaming technology they personally own, teens also play video games on the equipment owned by siblings or parents, or on devices at their friends' houses. In order to account for this complication, we averaged the ratings for each individual game. We were unable to count unrated games, and so, for instance, if a respondent named two rated games and one unrated game, we averaged the two rated games and ignored the unrated game. For example, if there were 14 versions of Tony Hawk Pro Skater, two of them were rated E, five of them were rated E10+, and seven were rated T, then that would be an average rating of 2.21.

[42] We also created an average game rating for each respondent by averaging the ratings of their current top three favorite games.

While the average game rating for the survey is age-appropriate and the "average game rating per respondent" mean is also fairly low, there are many teens in our survey who report playing games that are rated for much older players. Also, since many teens play unrated games, there is a whole portion of their gaming experience that we are missing.

Nearly one-third of young teens play M- or AO-rated games.

Almost one-third (32%) of all the teens in our survey play at least one game rated M or AO. Of these M- and AO-rated game players, 79% are boys and 21% are girls. Furthermore, 12- to 14-year-olds are equally likely to play M- or AO-rated games as their 15- to 17-year-old counterparts. Nearly three in ten (28%) of 12- to 14-year-olds list an M- or AO-rated game as a favorite, as do 36% of teens ages 15-17.[43] For a small number of teens, all three of the games they mentioned had a version with an M or an AO rating; for others, only one of the games they offered as their top three current favorites was an M- or AO-rated game.

Number of M/AO Rated Games By Gender Among Teens Who Play Any M or A/O Rated Games

What are your current top three favorite games?

# of top 3 games rated M or AO	Boys who play M- & AO-rated games	Girls who play M- & AO-rated games
1	61%	77%
2	32	23
3	7	0

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Based on teens who play at least one M or AO rated game (n=359). Margin of error is ±3%. n=359.

[43] The difference between 12- to 14-year-olds and 15- to 17-year-olds is not statistically significant.

Part 1. Section 3.

The Social Nature of Teen Video Game Play

The experience of game play can be affected by many things—what hardware or software is used to play the game, what kind of game is being played, whether one is playing with others, and what types of experiences one has while playing the game. This section addresses the latter two elements—the situational and experiential aspect of game play—and explores the social nature of gaming as well as the pro-social and anti-social experiences that gaming with others offers.

Social game play is thought to offer the possibility for youth to have collaborative and interactive experiences, experiences that potentially parallel many real world political and civic activities. Some scholars[44] have suggested that play in groups with others, particularly when working collaboratively toward a common goal (as with guilds and game groups in MMOGs), lays the groundwork for learning how to work with groups toward a common goal in other facets of life, particularly within the workplace and community. In this way gaming provides civic learning experiences—something we discuss in Part 2.

The flip side is the potential in gaming for gamers to observe anti-social behavior. This section explores the prevalence of these kinds of observations, as well as whether others playing the game responded to those anti-social, in-game moments.

Games are social experiences for the majority of teens.

Teens play games with other people—sometimes with people in the same physical location, other times with friends or others online. Even when they are not playing games with others, teens talk and engage with others about games—by posting comments on discussion boards and websites or by writing reviews and "walk-throughs" that assist newcomers to a particular game by showing them how to play the game.

Many teens play games with others.

Overall, 76% of teen gamers play games with other people in some way, either online or in person. Nearly two-thirds (65%) of teens say they play games with other people who are in the same room with them. Teens from households with lower levels of education are more likely than teens from households with higher education levels to play games

[44] Jenkins, *Confronting the Challenges of Participatory Culture;* Thomas, Doug, and John Seely Brown, "Why Virtual Worlds Can Matter," Working Paper (Los Angeles: University of Southern California, Institute for Network Culture, 2007), p. 15, accessed May 12, 2008, from http://www.johnseelybrown.com/needvirtualworlds.pdf.

with others in the room at the same time. There are no gender, age, or racial differences among those who plays games together with people in the same room.

More than one-quarter (27%) of teens who play games do so with others who are connected to them through the internet. Boys are more likely to play games with others on the internet than girls, with more than one-third of boys (34%) reporting internet-connected group game play, compared with 19% of girls. Teens with broadband access (31%) are more likely to play games connected to others through the internet than dial-up users (15%). There is no statistically significant difference by age. Playing with others via the internet is the least popular way for teens with broadband to play games with others—31% of broadband users play with others online, while 62% of teen broadband users play with others in the same room.

Teens also play games alone.

While gaming teens enjoy the social aspect of playing games with others, solo play remains very popular, as 82% of teens play games alone. Hispanic teens are more likely to report solo game play than white (though not black) teens (92% vs. 81%). Likewise, teens from households with low levels of parental education are more likely to play games alone than teens from households with higher levels of education (86% vs. 78%). Boys and girls and younger and older teens are all equally as likely to report playing games by themselves. However, few teens report that solo play is their sole method of gaming—24% of game-playing teens say they only play by themselves.

More than half of teens most often play with other people.

More than half (59%) of teen gamers play games in more than one way, switching between playing with others and playing alone. Of teens who play games in more than one way (with others online, in person, or alone), equal numbers say they play most often with others in the same room and by themselves, with 42% of teens in each group. About 15% of teens who play games in multiple ways say they play most often with others to whom they are connected virtually, meaning that 57% of teens who play in more than one way most often play with other people either virtually or in person. Among teens who play games in multiple ways, gamers with home broadband connections are more likely than dial-up users to report playing with others online, with 19% of broadband users playing online with others, compared to 6% of dial-up users. Otherwise, there is little other variation among modes of game play, including by race or socioeconomic status.

A significant number of online gamers play games in groups.

Among teens who play games with others online, more than two in five (43%) say they play games online as a part of group or guild; 54% of online gamers do not play as a part of a group. White teens who play games online with others are more likely than Hispanic

teens (but not blacks) to play as a part of a guild or group; 46% of white teens play online in guilds, while 22% of Hispanic teens who play games online with others report playing in groups. Forty-four percent of black teens who play online with others report playing as a part of a guild or group.

Most teens play online games with friends they know in their offline lives.

We asked teens who play online games with others how they knew the people they play games with online. Close to half of teens (47%) say they play games online with people they know from their community or with distant friends and family. More than one-quarter (27%) of teens say they only play online games with people they first met online, and another quarter of teens (23%) play with family and friends from their offline lives as well as with people they met online. Girls are more likely than boys to say they play games with people they know from offline relationships, with 58% of game-playing girls reporting such behavior, compared with 41% of gaming boys. Boys are more likely to report playing games both with people they know from their offline lives and people they first met online: 29% of gaming boys play with both types of people, compared with just 14% of girls.

Younger teens are also more likely to report game play with offline friends. More than half (52%) of teens ages 12-14 play online games with in-person friends, compared with 42% of teens ages 15-17. Older teens are more likely to report playing games with people they first met online—one-third of teen gamers ages 15-17 play with people they met first online, compared with 22% of younger gamers ages 12-14. White teens are more likely than black (but not Hispanic) teens to say they play games both with people the first met online and friends from their physical life (29% v. 11%).

MMOG players are much more likely to play games with others online.

Perhaps unsurprisingly, given the group game-play mechanics built into MMOGs and the complexity of their quests, MMOG gamers are more likely than those who do not play these games to play games with people who are connected to them through the internet: 68% of MMOG players report this type of play, compared with just 16% of non-MMOG players. MMOG players are also much more likely to say that playing with others to whom they are connected via the internet is the way they play most often, with nearly one-third (32%) of MMOG players reporting this as their predominant mode of game play, compared with 8% of those who do not play MMOGs. However, even with the popularity of internet-connected game play among MMOG gamers, the largest section of this group (37%) plays games most often with others in the same room.

MMOG Players Are More Likely to Play Games with People Online

Thinking about the game you play most often …

	MMOG players	Non-MMOG players
In what ways do you play the game?		
With other people in the same room	64%	65%
With people connected to you through the internet	68	16
Alone	78	83
Which way do you play most often?		
With other people in the same room	37%	44%
With people connected to you through the internet	32	8
Alone	29	47

Source: Pew Internet & American Life Project Teen & Parents Gaming and Civics Survey, November 2007- February 2008. The n=215 for teens who play MMOGs and n=846 for those who do not play them. Margin of error is ±7%.

More than one in three teens has played a video game for school.

One-third (34%) of American teens have played a computer or console game at school as part of a school assignment. Lower-income teens (41%) and teens from homes with lower overall education levels (41%) are more likely than their counterparts (29%) to have played a game for school. Black teens (46%) are more likely that white teens (32%) to have played a game at school for educational purposes. Younger teens are also more likely to have played a game at school than older teens: 40% of teens ages 12-14 have played a game at school as part of a school assignment, while 29% of teens ages 15-17 have done so.

When asked what games they played in school, many teens said they could not quite remember or that they played "math games" or "typing games." Thus, we are not able to report on the most commonly played games with a degree of precision, and it was clear that no one game or one kind of game predominated. The games mentioned by five or more teens were: Oregon Trail, Fun Brain, Lemonade Stand, and Roller Coaster Tycoon.

Pro-social and anti-social behavior in games

The social critique of video games has a long history, ranging from concerns about the health effects of spending long hours in front of a screen to diminished attention spans among those who play them. One significant critique has to do with the potential games have for teaching young people anti-social behaviors and attitudes. While this survey did not attempt to comprehensively address this issue, below are the results of questions that asked about gamers' observations of pro-social and anti-social behaviors in the context of game play.

The most popular game genres include games with both violent and nonviolent content. However, game genres that can include very violent content were played by the majority of teens. The two most widely played game genres were racing and puzzle games, played by nearly three-quarters of teens in the sample. These genres are noteworthy because they have little to no violent content. However, two-thirds of teens reported playing "action" or "adventure" games, some of which contain considerable levels of violence.[45]

Both violent and nonviolent games were among the most popular franchises reported in teens' top three games.

As described in Part1, Section 2, we asked teens to name the top three games they currently play. The top five game franchises teens mention in this survey are: Guitar Hero, Halo, Madden NFL, The Sims, and Grand Theft Auto. While Guitar Hero, the most often mentioned franchise in teens' top games, contains nonviolent content, Halo, at number two on the list, has an M, or mature, rating for "blood and gore." Grand Theft Auto, also rated M for "intense violence, blood, strong language, strong sexual content, partial nudity, and use of drugs and alcohol" is number five. Madden NFL and The Sims contain little to no violence.

Despite efforts to limit teens' access to ultra-violent or sexually explicit games, many teens report playing mature- and adult-only-rated games.

Almost one-third (32%) of all the teens in our survey play at least one game rated M or AO. Of these M- and AO-rated game players, 79% are boys and 21% are girls. Furthermore, 12- to 14-year-olds are equally likely to play M- or AO-rated games as their 15- to 17-year-old counterparts. Nearly three in ten (28%) of 12- to 14-year-olds list an M- or AO-rated game as a favorite, as do 36% of teens ages 15-17.[46]

Number of M- and AO-Rated Games by Gender among Teens Who Play Any M or AO Rated Games

What are your current top three favorite games?

How many of a teen's top three games are rated M or AO?	Boys who play M- and AO-rated games	Girls who play M- and AO-rated games
1	61%	77%
2	32	23
3	7	0

Source: Pew Internet & American Life Project. Gaming and Civics Survey of Teens/Parents, Nov 2007-Feb 2008. n=359. Margin of error is ±3%.

[45] Violence level in games is determined by the Entertainment Software Rating Board (ESRB). Here "considerable violence" refers to games rated T, M, or A/O.

[46] The difference between 12- to 14-year-olds and 15- to 17-year-olds is not statistically significant.

For a small number of teens, all three of the games mentioned have a version with an M or an AO rating; for others, only one or two of the games they offered as their top three current favorites was an M- or AO-rated game.

The majority of teens who play games encounter aggressive behavior while playing games, and most of those teens witness others stepping in to stop the behavior.

Among teens who play games, 63% report seeing or hearing "people being mean and overly aggressive while playing," with 24% reporting this happens "often." Of those who have had these experiences, 73% state they have seen or heard other players ask the aggressor to stop, with 23% reporting that this happens "often."

Prevalence of Aggressive Behavior in Gaming and Efforts to Stop Aggressive Behavior

When you play computer or console games, how often do you see or hear people being mean and overly aggressive while playing? When players act this way, how often do you hear or see other players responding by asking them stop?

	% teens who witness behavior (n=1064)	% teens who witness behavior and subsequent efforts to stop it (n=679)
Often	24%	23%
Sometimes	39	50
Never	36	26

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Out of teens who play games (n=1064). Margin of error is ±3%.

Among teens who play games in our survey sample, 49% report seeing or hearing "people being hateful, racist or sexist while playing" at least sometimes, and 16% report this happens "often." Among teens who witnessed these behaviors, 73% state they have seen or heard other players ask the aggressor to stop at least sometimes, and 26% have witnessed this "often."

Prevalence of Aggressive Behavior in Gaming and Efforts to Stop Hateful, Racist, or Sexist Behavior

When you play computer or console games, how often do you see or hear people being hateful, racist or sexist while playing? When players act this way, how often do you hear or see other players responding by asking them stop?

	% teens who witness behavior (n=1064)	% teens who witness behavior and subsequent efforts to stop it (n=679)
Often	16%	26%
Sometimes	33	47
Never	51	27

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Out of teens who play games (n=1064). Margin of error is ±3%.

Boys are more likely to report witnessing negative behavior than girls but are no more likely to witness others stepping in to stop the behavior.

Among teen gamers, nearly three-quarters of boys report seeing mean or overly aggressive behavior, compared with just over half of girls. Boys are also more likely to witness hateful, racist, or sexist behavior, with 57% saying they have had this experience, compared with 39% of girls.

Boys Witness More Negative Behavior while Gaming than Girls

Behavior witnessed	% Boys	% Girls
Mean or aggressive behavior	71%	55%
Other people stopping mean or aggressive behavior	75	72
Hateful, racist, or sexist behavior	57	39
Other people stopping hateful, racist or sexist behavior	73	72

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Out of teens who play games (n=1064). Margin of error is ±3%.

Teens who play games also witness a large amount of "pro-social" behaviors. These are behaviors that encompass activities that society generally values, like positive social interaction skills, self-regulation, and achievement behaviors and creative play.[47]

More than three-fourths of teens who took the survey report witnessing "people being generous or helpful while playing," and 27% reported seeing this happen "often."

Prevalence of Pro-Social Behavior in Gaming

When you play computer or console game, how often do you see people being generous or helpful while playing?

% who say	Teens who play games (n=1,064)
Often	27%
Sometimes	51
Never	21

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%.

For many, it is more than game play—36% of gamers read game-related reviews, websites, and discussions.

Beyond playing a game on a console, computer, or mobile device, many teens also engage with content and with other players on websites and in discussion spaces about

[47] Calvert, Sandra, *Children's Journeys through the Information Age* (New York: McGraw Hill, 1999), p. 209.

games generally or a particular game more specifically. More than a third of gamers (36%) read websites, reviews, or discussions related to games they play. Another 12% of gaming teens contribute to these sites, write reviews, and participate in discussions about games they play.

Boys and younger teens are more likely read game-related websites and discussions.

Nearly half of boys gamers (47%) visit such sites and read reviews and chats about games they play, compared with less than a quarter (23%) of girls who game. Those ages 12-14 are also somewhat more likely than older teens to read these websites; 39% of 12- to 14-year-olds read them, as do 32% of 15- to 17-year-olds. When looking at age and gender together, the older girls (ages 15-17) are much less likely than any other group to engage with game-related websites or online discussions—just 16% of girls ages 15-17 visit these sites, compared with 47% of all boys and 31% of younger girls.

Teen Participation in Game-Related Websites Varies by Age and Gender

Do you ever read or visit websites, reviews or discussion boards related to the games you play?

	Teens who play games (n=1,064)
Boys 12-14	47%
Girls 12-14	31%
Boys 15-17	48%
Girls 15-17	16%

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%.

Playing games with others online, playing MMOGs and virtual worlds all increase the likelihood that a gamer will visit game-related websites.

Not surprisingly, active online gamers are the most likely to use the web to visit game-related websites. More than half (56%) of teens who most often play games online with others read game-related websites and discussions, while 31% of those who play most often with others in the same room and 35% of those who most often play alone say they visit these sites. Similarly, 59% of MMOG players read websites, reviews, and discussions about games they play, while 29% of teens who do not play MMOGs visit them. More than half (54%) of teens who visit virtual worlds read websites, reviews, and chats about they games they play, compared with a third (33%) of teens who do not use virtual worlds.

More than one in ten teens contribute to game-related websites.

A bit more than one in ten teens (12%) contribute to websites, reviews, and discussions about games they play, and boys are more likely than girls to contribute to these websites or online discussions. About one in six boys (14%) contribute to game-related websites and chats, while 9% of gaming girls do the same. Unlike the pattern among those who read material at these sites, there is no age differential in contributing to game-related websites or discussions.

About a quarter (24%) of teens who play games more often with others online contribute these sites, compared with 9% of teens who play games with others in the same room and 11% of teens who most often play games alone. MMOG players and virtual world users display similar behaviors; 26% of each group contributes to websites, reviews, or discussions around games they play, compared with 8% of those who do no play MMOGs and 10% of those who do not use virtual worlds.

More than one-third of teen gamers use cheat codes or game hacks.

When teens visit game related websites, they sometimes search for codes that allow them to access hidden game content and new, modified versions of games that have been built or altered, often by other players. Cheats or game hacks are codes generally created by the game designer that allow the player to access more content in a game. More than a third (37%) of teens who play video games use cheats or game hacks. Boys are much more likely to use these codes than girls, with half (50%) of all boy gamers using cheat codes "often" or "sometimes" —more than double the 23% of girls who use the codes. Teens of all ages use cheats at about the same rate.

Cheats or game hacks are codes or button combinations, generally created by the game designer, that allow the player to access more content or alter game play.

Teens who have a game console (though this is not necessarily the only way they play games) are much more likely than teens who do not have a console to use game cheats to unlock hidden content—41% of console owners use the codes, compared with just 9% of teens without consoles. Daily game players are also more likely to use cheats and game hacks than teens who play less often, with nearly 45% of daily gamers using cheats, and 34% of those who play less often employing the codes.

Close to three in ten gaming teens have used "mods" to alter the games they play.

Mods are pieces of player-created computer code that change something in the game. Modding (or building mods) generally requires the use of a computer to alter the source code of a game, whether that game is played on a computer, console, or other device.

Mods can take various forms. Some may create new parts of a game, such as making new characters, weapons, and locations. Some mods completely change a game so that it bears little resemblance to the original game. More than a quarter (28%) of teens who game have used mods "often" or "sometimes" to change the games they play.

"Mods" are pieces of third-party-created code that change something in the game. Modding (or building mods) generally requires the use of a computer to alter the source code of a game.

Boys are more likely to use mods than girls, though the differences are less stark than the differences between the sexes in the use of cheat codes. More than a third of boys 36% use mods, while one in five girls (20%) employ them to change the games they play. Teens who play games daily are also more likely to use mods than their less-frequent gaming counterparts; 37% of daily games use mods and 24% of less-frequent gamers do.

Teens who play games online in guilds or groups are more likely to employ mods to change the games they play: 44% of players in guilds using mods, while 27% of teens who don't play in online guilds or groups use them.

Teens who use game cheats and mods are more likely to visit game-related websites.

The internet offers a wealth of information about cheat codes, hacks, and mods. Often, mods and cheat codes are acquired at websites or in online forums about games. Gamers who utilize these game-changing tools are much more likely than other gamers to read or visit websites, reviews, and discussion boards devoted to the games they play. Roughly half of gamers who use cheat codes or hacks (51%) read reviews or visit websites and discussion boards devoted to their favorite games, compared with 27% of gamers who do not use cheats or hacks. Similarly, 51% of gamers who use mods or other user-generated code go online or read reviews of games, compared with 30% of those who do not use mods.

Interestingly, while gamers who use cheat codes are more likely to read about their favorite games, they are not more likely to actually *contribute* to websites or discussion boards about their favorite games—14% of those who use cheat codes do this, compared with 10% of those who do not use cheat codes, which is within the margin of error for this survey. In contrast, gamers who use mods or other user-generated code to make changes to the games they play are, in fact, more likely than other gamers to contribute to gaming websites and discussion boards. Roughly one in five gamers who use mods (19%) contribute to these sites, compared with one in ten (9%) of those who do not use mods or other user-generated code.

Part 1. Section 4.

Parents and Games

Parents say they are largely aware that their children play video games, but their engagement varies when it comes to knowledge of ratings, their steps to stop their children from playing, and the act of playing games with their children. While most parents attempt some form of monitoring, the parents of boys and younger children are more likely to monitor game play than parents of girls and older children. Most parents say they regularly check ratings and that certain games draw particular attention. And many parents say that on occasion they stop their children from playing certain games. Far fewer parents say they actually play video games with their children. The age and gender of the teen are consistent predictors of the amount of parent-reported monitoring.

A majority of parents are aware that their children play video games.

Almost nine out of ten (89%) parents say their children play video games (a considerably smaller number than the 97% of teens who self-report playing video games). More black parents (96%) say their children play video games than white (89%) or Hispanic parents (86%).

Parents of boys are more likely to say their kids play video games than parents of girls. Fully 97% of parents of boys say their sons play video games, compared with 81% of parents of girls. These numbers are quite different from what kids themselves report—99% of boys and 94% of girls say they have played a video game.

Parents know what games their children play—at least some of the time.

Nine out of ten parents say they sometimes or always know what games their children play, compared with 10% of parents who say they rarely or never know what games their children play. Parents of younger teens pay more attention to the games their children play than parents of older teens. Fully 63% of parents of 12- to 14-year-old teens say they always know what games their children are playing, compared with 48% of parents of 15- to 17-year-olds.

Girls ages 15-17 are the least likely to have parents that know what games they play: 42% of parents of girls ages 15-17 say they "always" know what games their daughters play, compared with 52% of parents of boys ages 15-17, 62% of boys ages 12-14, and 65% of parents of girls ages 12-14.

Teens with black parents are less likely to report that their parents know which games they play (79%), compared to teens with white parents (90%).

More than half of parents report "always" checking video game ratings.

Many parents are aware of video game ratings and check the ratings of the games their children play. More than half of parents of gamers (55%) report "always" checking the rating before their children are allowed to play a video game, compared with 17% who say they "sometimes" check, 8% who say they "rarely" check, and 19% who say they "never" check. Younger parents and parents of younger children (populations in which there are significant overlaps) are also more likely to say they "always" check the ratings of the games their children play than older parents. Among parents of teens ages 12-14, 80% ever check the rating of games their child play, compared to 64% of parents of teens ages 15-17. Two-thirds (67%) of parents under 40 say they "always" check the ratings of the games their children play, compared with 50% of parents 40 or older.

Gender also plays a role in the likelihood of parents checking the ratings on a game their child plays. Among parents of boys, 77% report ever checking the ratings of the games their child played, compared to 67% of parents of girls.

Parents of boys are more likely to intervene in game play than parents of girls.

Parents are split in how often they stop their children from playing a game.[48] Fully 46% of parents say they "always" or "sometimes" stop their children from playing video games, compared with 54% who say they "rarely" or "never" stop their children from playing video games.

Parents of boy gamers are more likely to report that they always or sometimes stop their children from playing a game than parents of girl gamers. Eleven percent of parents of boys who play games say they always stop their sons from playing a game, and 42% say they sometimes stop their sons from playing a game, compared with 6% of parents who say they always stop their daughters from playing a game and 31% of parents who say they sometimes stop their daughters from playing a game. Overall, 53% of parents of boys report ever stopping their children from playing a game, compared to 37% of parents of girls. Previously, we noted that boys are more likely to play M- or AO-rated games than girls. The higher level of parental monitoring of boys is correlated with the fact that boys are more likely than girls to seek out games with content that is inappropriate for their age group.

Few parents play games with their children.

Media research suggests that when they participate in a media form with their children, parents are able to impart their values and beliefs about the acts and messages within the

[48] The question wording here is broad enough that "stopping" a child from playing a game could mean anything from a temporary hiatus to a permanent ban.

media form. This holds for watching television programs as well as for playing video games.[49] Parents who play video games with their children can explain and contextualize the violent or negative messages that children might pick up from playing certain games.

A very small number of parents say they regularly play games with their children. Only 2% of parents say they always play video games with their teenaged children, compared with 29% who say they sometimes play games with their children, 26% who say they rarely play games with their children, and 43% who say they never play games with their children.

Fathers are more likely than mothers to report playing games with their children. One-third (33%) of fathers say they play games with their children sometimes, compared with 26% of mothers, and 30% of fathers say they play games with children rarely, compared with 22% of mothers. Over half of mothers (51%) say they never play games with their children, compared with 34% of fathers.

Younger parents (under age 40) are more likely than older parents to say they sometimes play video games with their children. Four out of ten younger parents (40%) report this, compared with 25% of older parents. Parents of younger teens are also more likely to engage in co-play. Among parents of teens ages 12-14, 34% play games with their child, compared with 27% of parents of teens ages 15-17.

Parental Involvement In Video Game Play Varies

When your child plays video games, how often do you…?

	Always	Sometimes	Rarely	Never
Know which games your child is playing	56%	34%	6%	4%
Check the ratings before he/she is allowed to play the game	55	17	8	19
Stop him/her from playing a game	9	37	23	31
Play games with him/her	2	29	26	43

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%.

Parents are unlikely to emphasize the impact of video games on their own children.

More than six in ten parents (62%) say that video games have no effect on their children one way or the other, compared with 13% of parents who say that video games have a negative influence on their children, 19% who say video games have a positive influence,

[49] Nikken, P., and J. Jansz, "Parental Mediation of Children's Video Game Playing: A Similar Construct as Television Mediation," paper presented at the annual meeting of the International Communication Association, New Orleans (May 2004), retrieved June 26, 2008, from http://www.allacademic.com/meta/p112837_index.html

and 5% who say video games have some negative influence and some positive influence —but that it depends on the game.

Parents of girls are more likely to say that games do not have any effect on their children than parents of boys. Seven in ten parents of girls say that playing video games has not had much effect one way or the other on their daughters, compared with 56% of parents of boys who say similar things about the effect of playing video games on their sons.[50]

Parents of male gamers are more apt to say that games have affected their sons negatively. Almost one-fifth (18%) of parents of male gamers say that playing video games negatively influences their sons, compared with 7% of parents of female gamers. This is especially true with regard to younger sons. Some 21% of parents of boys ages 12-14 say video games have a negative influence on their child, compared with 16% of parents of boys ages 15-17, 6% of girls ages 12-14 and 6% of girls ages 15-17.

Parents who tell us their children do not play video games tend to believe that video games have a negative influence on children. Over half of parents who say their children do not play video games (58%) say that video games are a negative influence, compared with 4% who say video games have a positive influence, 27% who say they have no effect one way or the other, and 8% who say it depends on the game.

[50] It is possible that this discrepancy exists because parents perceive girls as less likely to play games than boys.

Part 2.

Video Games' Relationship to Civic and Political Engagement

"The qualifications for self-government are not innate," wrote Thomas Jefferson, "but rather are the result of habit and long-training."[51] Indeed, the development of citizens, key to the perpetuation of a healthy democracy, is a task for every generation.

As noted in the introduction to this report, many see a need to strengthen youth civic outcomes.[52] Whether and under what circumstances youth video game play is likely to help or hinder such efforts, however, is not well understood.

Given the ubiquity of video games and their potential impact on the civic lives of teens, this report considers the positive and negative relationships that may exist between game play and civic and political engagement.

Are there connections between games and civic life?

> Civic and political engagement in a democratic society include individual and collective efforts to identify and address issues of public concern. These actions range from individual volunteerism, to organizational involvement, to electoral participation.[53]

Currently, little is known about the influence of video games on youth civic engagement. There have not yet been many studies that examine, for example, whether civic development is supported by such civic gaming experiences as creating a virtual nation, working with others cooperatively, expanding one's social network online, and helping less experienced players play games. The relationships between similar civic activities in other domains and civic outcomes, however, have been studied.

Civic education researchers have conducted longitudinal and quasi-experimental studies that examine the relationship between both school-based civic learning opportunities and social contexts, on the one hand, and young people's civic and political engagement, on

[51] Thomas Jefferson to Edward Everett, 1824, *The Writings of Thomas Jefferson* (22 vols., 1905), edited by Andrew A. Lipscomb and Albert Ellery Bergh, Vol. 16, p. 22.
[52] Gibson, C., and P. Levine, *The Civic Mission of Schools* (New York and Washington, DC: Carnegie Corporation of New York, 2004); and Macedo et al., *Democracy at Risk*.
[53] Michael Delli Carpini, Director, Public Policy, The Pew Charitable Trusts, http://www.apa.org/ed/slce/civicengagement.html

the other. In that research, the opportunities and contexts found to be effective include: learning about how governmental, political, and legal systems work; learning about social issues; volunteering to help others; participating in simulations of civic and political activities; and participating in extracurricular activities where young people can practice productive group norms and expand social networks.

When these experiences are provided to young people in school and in after-school settings, particularly to adolescents who are at a critical age for the development of civic identity, studies have found increases in their commitment to civic and political participation.[54] The widespread popularity of video games among teens raises the question of whether video games can provide similar opportunities for civic and political engagement with the same results.

This report defines "civic gaming experiences" as experiences young people have while gaming that are similar to offline experiences in classrooms and schools that research has found promote civic and political engagement in young people.

The civic gaming experiences that we measured include:

- Helping or guiding other players.
- Playing games where one learns about a problem in society.
- Playing games that explore a social issue the player cares about.
- Playing a game where the player has to think about moral or ethical issues.
- Playing a game where the player helps make decisions about how a community, city or nation should be run.
- Organizing game groups or guilds.

The Gaming and Civics Survey measures the quantity, civic characteristics, and social context of gaming, while also measuring the civic and political commitments and activities of teens. It is the first large-scale study with a nationally representative sample that measures how frequently youth have civic gaming experiences, the social contexts of gaming, and the relationship between the civic content and social context of game play and varied civic outcomes on the other.

[54] Kahne, J., and S. Sporte, "Developing Citizens: The Impact of Civic Learning Opportunities on Students' Commitment to Civic Participation,"*American Educational Research Journal*,45 (2008), pp. 738-66. Also see Gibson and Levine, *The Civic Mission of Schools* for review of the literature.

Some civic gaming experiences are more common than others.

Between 30% and 76% of teens have these civic gaming experiences "at all." Relatively few teens reported often having a specific civic gaming experience "often."

Prevalence of Civic Gaming Experiences

"When you play computer or console games, how often do you _____?"

	% teens having the experience "at least sometimes"	% teens "often" having the experience
Help or guide other players	76%	27%
Think about moral or ethical issues.	52	13
Learn about a problem in society.	44	8
Learn about social issues.	40	8
Help make decisions about how a community, city, or nation should be run.	43	9
Organize or manage game groups or guilds.	30	7

Source: Pew Internet & American Life Project. Gaming and Civic Survey of Teens/Parents, Nov 07–Feb 08. Margin of error is ±3%. Based on teens who provided an "often," "sometimes," or "never" response. Full question wording: "When you play computer or console games, how often do you _____? Often, sometimes or never…or is that something that does not apply to the games you play?"

Teens have varying levels of civic gaming experiences.

Individuals also report differing amounts of civic gaming experiences. Teens who have the least civic gaming experiences (those in the bottom 25% of the distribution of civic gaming experiences) report sometimes helping or guiding other players, but are unlikely to report having any other civic gaming experiences. Teens who have average civic gaming experiences (those in the middle 50% of the distribution of civic gaming experiences) typically have had several civic gaming experiences at least sometimes, with a small number of civic gaming experiences occurring often. Teens who have the most civic gaming experiences (those in the top 25% of the distribution of civic gaming experiences) typically have had all the civic gaming experiences at least sometimes, as well as some civic gaming experiences often.

Roughly 60% of teens are interested in politics, charitable work, and express a sense of commitment to civic participation.

On the whole, teens are likely to report getting information about politics, raising money for charity, and expressing a sense of responsibility for and commitment to future civic participation, with (64%) of teens reporting these outcomes. More than half of all teens volunteer, stay informed about political issues, and are interested in politics. Teens are far less likely to report trying to persuade someone how to vote in an election (24%) or taking part in a protest march or demonstration (9%).

Prevalence of Teens' Civic and Political Engagement	
Civic and Political Commitments	**% of teens who agree**
Are committed to civic participation	64%
Are interested in politics	55
Civic and Political Activities	**% of teens active in past 12 months**
Go online to get information about politics or current events	64%
Give or raise money for charity	63
Stay informed about political issues or current events	59
Volunteer	57
Persuade others how to vote in an election	24
Participate in a protest, march, or demonstration	9

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%.

The quantity of game play is not strongly related (positively or negatively) to most indicators of teens' interest and engagement in civic and political activity.

Analyses compared the civic and political attitudes and behavior of teens who play games every day or more, those who play games one to five times per week, and teens who play games less than once a week. For all eight indicators of civic and political engagement, there were no significant differences between teens who play games every day and teens who play less than once a week (after controlling for demographics and parents' civic engagement). For six of the eight indicators, there were no significant differences between teens who play games one to five times a week and teens who play less than once a week. The exception was that 11% of teens who play games one to five times a week have protested in the last 12 months, compared with 5% of teens who play less than once a week, and 57% of teens who play games one to five times a week say they are interested in politics, compared with 49% of teens who play less than once a week (see Table 1 in Appendix 2 for details).

Within the group of teens who play games every day, time spent gaming varied from 15 minutes to several hours each day. The relationship between the number of hours teens played games the previous day and civic outcomes was statistically significant for two of the eight outcomes asked about. Teens who spend more hours playing games are slightly less likely to volunteer or to express a commitment to civic participation than those who play for fewer hours (see Table 2 in Appendix 2 for details).

The characteristics of game play are strongly related to teens' interest and engagement in civic and political activity.

Part 2.
Video Games' Relationship to Civic and Political Engagement

Teens who have civic gaming experiences report much higher levels of civic and political engagement than teens who have not had these kinds of experiences (see Table 3 in Appendix 2 for details). These differences were statistically significant for all eight of the civic outcomes considered.

Among teens who had the most civic gaming experiences—those in the top 25% of our sample who had many of the experiences at least "sometimes" and several experiences frequently:[55]

- 70% go online to get information about politics or current events, compared with 55% of those who have the least civic gaming experiences.
- 70% have raised money for charity in the past 12 months, compared with 51% of those who have the least civic gaming experiences.
- 69% are committed to civic participation, compared with 57% of those who have the least civic gaming experiences.
- 61% are interested in politics, compared with 41% of those who have the least civic gaming experiences.
- 60% stay informed about current events, compared with 49% of those who have the least civic gaming experiences.
- 34% have tried to persuade others to vote a particular way in an election, compared with 17% of those who have the least civic gaming experiences.
- 15% have participated in a protest, march, or demonstration, compared to 6% of those who have the least civic gaming experiences.

Among teens who reported having average amounts of civic gaming experiences—that is, those in the middle 50% of our sample who had several civic gaming experiences "sometimes" or a small number "frequently":

- 64% go online to get information about politics or current events, compared with 55% of those who have the least civic gaming experiences.
- 61% have raised money for charity in the past 12 months, compared with 51% of those who have the least civic gaming experiences.
- 59% stay informed about political issues or current events, compared with 49% of those who have the least civic gaming experiences.
- 56% are interested in politics, compared with 41% of those who have the least civic gaming experiences.

[55] While these relationships are consistent and statistically significant, the overall impact of civic gaming experiences on civic outcomes does not explain a high percentage of the overall variation in civic and political engagement (this is indicated by the R^2 in Appendix 2). This is not surprising as we do not expect that video game play is a prime determinant of civic and political engagement.

Teens Who Have More Civic Gaming Experiences Are More Engaged in Civic and Political Life

	% teens with few civic gaming experiences (bottom 25%)	*% teens with average civic gaming experiences (middle 50%)*	*% teens with many or frequent civic gaming experiences (top 25%)*
Go online to get information about politics or current events	55%	64%*	70%*
Give or raise money for charity	51	61*	70*
Say they are committed to civic participation	57	61	69*
Say they are interested in politics	41	56*	61*
Stay informed about political issues or current events	49	59*	60*
Volunteer	53	54	55
Persuade others how to vote in an election	17	23	34*
Participated in a protest march or demonstration	6	7	15*

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%. Indicates a statistically significant difference compared with teens with the least civic gaming experiences.*

Playing games with others in person is related to civic and political outcomes, but playing with others online is not.

Teens who play games socially are more likely to be civically and politically engaged than teens who play games primarily alone. However, this is only true when games are played with others in the same room. Teens who play games with others online are no different in their civic and political engagement than teens who play games alone (see Table 4 in Appendix 2 for details).

Among teens who play games with others in the room:

- 65% go online to get information about politics, compared to 60% of those who do not.
- 64% have raised money for charity, compared to 55% of those who do not.
- 64% are committed to civic participation, compared to 59% of those who do not.
- 26% have tried to persuade others how to vote in an election, compared to 19% of those who do not.

Youth who take part in social interaction related to the game, such as commenting on websites or contributing to discussion boards, are more engaged civically and politically. Youth who play games where they are part of guilds are not more civically engaged than youth who play games alone.

In order to determine whether the lack of relationship between civic outcomes and playing with others online was due to the depth of interactions that occur online, different kinds of online gaming relationships were considered. Playing with others online can be a fairly weak form of social interaction where players do not interact directly and only play for a short time, or it can include longer and more sustained networks where players join a guild and/or play games in an ongoing, interactive fashion. New media scholars suggest that the more intensive socializing one sees in guilds offers many benefits of offline civic spaces[56] that less-intensive online play does not. To shed light on this issue, we compared those who participate in guilds and those who only play alone.

There was no difference between the two groups' level of civic and political engagement. Among teens who read or visit websites, reviews, or discussion boards related to games they play, 70% go online to get information about politics or current events, compared with 60% of teens who play games but do not do this (see Table 5 in Appendix 2 for details).

Among teens who write or contribute to game-related websites:

- 74% are committed to civic participation, compared with 61% of those who play games but do not contribute to online gaming communities.
- 68% have raised money for charity, compared with 61% of those who play games but do not contribute to online gaming communities.
- 67% stay informed about current events, compared with 58% of those who play games but do not contribute to online gaming communities.
- 63% are interested in politics, compared with 54% of those who play games but do not contribute to online gaming communities.
- 38% have tried to persuade others how to vote in an election, compared with 22% of those who play games but do not contribute to online gaming communities.
- 18% have protested in the last 12 months, compared with 8% of those who play games but do not contribute to online gaming communities.

[56] Steinkuehler and Williams, "Where Everybody Knows Your (Screen) Name."

Teens Who Contribute to Online Gaming Communities Are More Engaged in Civic and Political Life			
	% teens who play games but do not contribute to game-related online communities.	% teens who read or visit game-related online communities	% teens who write or contribute to game-related online communities
Say they are committed to civic participation.	61%	64%	74%*
Go online to get information about politics or current events.	62	70*	73
Give or raise money for charity.	61	62	68*
Stay informed about political issues or current events.	58	61	67*
Say they are interested in politics.	54	56	63*
Volunteer	55	52	58
Persuade others how to vote in an election.	22	27	38*
Participated in a protest, march, or demonstration.	8	13	18*

Source: Pew Internet & American Life Project. Gaming and Civic Engagement Survey of Teens/Parents, Nov 2007-Feb 2008. Margin of error is ±3%. Indicates where there is a statistically significant difference between teens who read or contribute to material in online communities and those who do not.*

Civic gaming opportunities appear to be more equitably distributed than high school civic learning opportunities.

The fact that civic gaming experiences are strongly related to many civic and political outcomes raised the question of how equitably they were distributed. Previous research has found that the high school civic learning opportunities that promote civic and political commitments and capacities tend to be unequally distributed with higher-income, higher-achieving, and white students experiencing many more opportunities than their counterparts.[57]

This, however, was not the case for civic gaming opportunities. Only gender is related to whether teens have access to these opportunities. Overall, 81% of boys reported having average or frequent civic gaming experiences, compared to 71% of girls. Income, race, and age were all unrelated to the amount of civic gaming experiences reported by respondents (see Table 6 in Appendix 2 for details).

[57] Kahne and Middaugh, "Democracy for Some."

Appendix 1. Video Game and Console History Chart

Major Video Game and Handheld Consoles				
Console Name	**Manufacturer**	**U.S. Release**	**System Highlights***	**Popular Games**
Atari 2600	Atari	1977	First home game console to experience extraordinary success, selling more than 30 million units.*	*Pac-Man*; *Pitfall!*
NES	Nintendo	1985	The NES revived the floundering video game market and has since attained iconic status, selling nearly 62 million units worldwide.	*Super Mario Bros. series; Legend of Zelda; Tetris*
Genesis	Sega	1988	When Sega premiered its 16-bit system, the world fell in love with a blue hedgehog named Sonic. Thirteen million units were sold in the U.S. in just five years.	*Sonic the Hedgehog series; Mortal Kombat 2*
Game Boy	Nintendo	1989	Nintendo's first portable game player, and its later color version, is one of the most successful systems ever, selling more than 118 million units worldwide.	*Tetris; Pokemon; Super Mario Land*
Super Nintendo (SNES)	Nintendo	1991	Nintendo's momentum continued with its 16-bit system, outselling the competition at nearly 50 million units worldwide.	*Donkey Kong Country; Super Mario Kart; Street Fighter II*
PlayStation	Sony	1995	Sony proved the power of a brand with their 32-bit system, which used CDs rather than game cartridges, shipping more than 102 million units through 2006.	*Gran Turismo; Final Fantasy VII; Tomb Raider series*
PS2	Sony	2000	Sony's second system proved even more successful than the first, with more power and a DVD player selling over 100 million units.	*Grand Theft Auto series; Gran Turismo series*
Xbox	Microsoft	2001	Microsoft's first venture into the hardware industry had many computer-like attributes and has sold more than 24 million units.	*Halo series; Tom Clancy's Splinter Cell; Madden NFL*
DS	Nintendo	2004	Nintendo's latest handheld offered players two screens, one which is touch sensitive. The DS and DS Lite have sold more than 21 million units since launch.	*Nintendogs; Pokemon; Brain Age*
PSP	Sony	2005	Sony's response to the DS focused more on power than innovation, and sales have held strong at more than 20 million units.	*Grand Theft Auto: Vice City Stories; Monster Hunter*
Xbox360	Microsoft	2005	Xbox was the first to strike in the newest generation of gaming consoles. The 360 offered online gaming through Xbox Live and has sold 19 million units worldwide.	*Halo 3; Gears of War; Call of Duty 4*
PS3	Sony	2006	The most advanced and highest priced of the newest batch of consoles, the PS3 allows you to play Blu-Ray movies. Thus far, PS3 sales globally have passed 12 million.	*MotorStorm; Resistance: Fall of Man; Grand Theft Auto IV*
Wii	Nintendo	2006	Offering innovation over sheer power, the Wii gives players a motion-sensitive controller and focuses on games that are fun, social and active, rather than intense. The Wii has sold more than 25 million units globally.	*Wii Play; Super Mario Galaxy; Super Smash Bros. Brawl*

** Data regarding the number of consoles sold (with the exception of the Xbox 360, PS3 and Wii) comes from an online Business Week slideshow, "A Brief History of Game Console Warfare." Available online at http://images.businessweek.com/ss/06/10/game_consoles/source/1.htm. Data on the three most recent systems comes from a May 22, 2008 article in DailyTech, available online at http://www.dailytech.com/Microsoft+First+to+100+Million+Consoles+Sold+Wins+War/article11792.htm.*

Appendix 2. Regression Analysis

The findings regarding the relationship between frequency, social context and civic qualities of gaming experiences and life civic outcomes were derived using regression analysis. This statistical technique allows us to pinpoint whether a relationship between different gaming experiences and civic and political outcomes exists after controlling for factors such as income, race, gender and parent involvement—all individual characteristics that have been previously found to be important predictors of civic and political engagement.

Logistic regression was used in conducting the analyses, with the dependent variables being:

- Go online to get information about politics. (Yes/No)
- Volunteered in the last 12 months. (Yes/No)
- Raised money for charity in the last 12 months. (Yes/No)
- Persuaded others how to vote in an election in the last 12 months. (Yes/No)
- Stayed informed about politics or current events during the last 12 months. (Yes/No)
- Protested in the last 12 months. (Yes/No)
- Commitment to civic participation. (Agree/Disagree)
- Interest in politics. (Agree/Disagree)

To determine the relationship between frequency of gaming experiences and civic and political outcomes, each of the outcomes was modeled as a function of the following variables:

- Demographic: Parent income[58] (a scale that runs from 1 to 8), race (white, African American, Hispanic, or other), gender, and age (binary variable with two categories: 12-14, 15-17).
- Parent Involvement: Included parent reports of whether, in the past 12 months, they volunteered, raised money for charity, protested, or stayed informed about politics or current events. For each outcome, the parental involvement item that most closely matched the outcome was included in the analysis.
- Frequency of game play: Frequency of game play was measured on an ordinal scale from 1-6 ranging from less than once a week to several times a day. For this analysis,

[58] Parent education was also measured as a proxy for SES. We ran parallel analyses substituting this measure for income, and found some small differences in model fit and parameter estimates, but not substantial enough differences to choose one measure over the other.

frequency of game play was transformed into 3 categories—1) every few weeks or less, 2) 1-5 days a week, 3) daily or more. In all regression models, frequency of game play was entered as a dummy variable with the lowest frequency serving as the reference group.

To determine the relationship between the social context of game play and civic and political outcomes, each outcome was modeled as a function of the demographic and parent involvement variables described above and:

- Playing games with others in person: For the game they play most often, teen played games with other people who were in the same room as them. (Yes/No)
- Playing games with others online: For the game they play most often, teen played the game with people who were connected to them through the Internet. (Yes/No)
- Researching the game: Teen read or visit websites, reviews or discussion boards related to the games they play. (Yes/No)
- Contributing to online writing or discussion about the game: Teen writes or contributes to websites, reviews or discussion boards related to the games they play. (Yes/No)

To determine the relationship between civic gaming experiences and civic and political outcomes, each outcome was modeled as a function of the demographic and parent involvement variables described above and:

- Civic gaming experiences: The civic gaming experiences variable was created by averaging six items measured on a three-point scale (never, sometimes, and often). This continuous variable was then broken into three categorical variables—least civic gaming experiences, average civic gaming experiences, and most civic gaming experiences. Most civic gaming experiences included teens in the top 25% of frequency, average civic gaming experiences included teens in the middle 50%, and least gaming experiences included teens who fell into the bottom 25%. In all regressions, the variable was entered as a dummy variable with infrequent civic gaming experiences serving as the reference group.

Finally, distribution of civic gaming experiences was analyzed using binary logistic regression with civic gaming experiences as the outcome (Infrequent vs. Average or Frequent) modeled as a function of demographic variables (parent income, race, gender, age) and frequency of game play which are described above.

Regression Results

Table 1: Relationship between frequency of game play and civic and political outcomes

	Civic and Political Outcomes					
	Get info. about Politics	**Volunteer**	**Charity**	**Stay Informed**	**Protest**	**Political Interest**
	Exp(B)	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**
Demographic Variables						
Income	1.062	1.084	.977	1.104*	.920	1.080
Parent Hispanic	1.631	.619*	.892	.835	1.366	.771
Parent African American	1.152	.682	.802	1.117	1.120	1.208
Parent Other	2.582*	1.630	1.010	1.990*	.529	1.207
Child age (older)	1.426*	1.361*	1.091	1.982***	1.027	1.705***
Child sex (female)	1.013	1.213	1.305	1.180	1.585	1.090
Parent Involvement						
Parent volunteered	--	2.208***	--	--	--	--
Parent charity	--	--	2.047***	--	--	--
Parent protested	--	--	--	--	4.901***	2.277*
Parent stays informed	1.156	--	--	2.575***	--	.935
Frequency of Game Play						
Some Games (vs. little/none)	1.044	.982	1.187	1.078	2.545*	1.684**
Frequent Games (vs. little/none)	.677	.698	.939	.781	1.878	1.265
R^2	.046**	.102***	.051***	.119***	.065**	.054**

Note: For two of the civic and political outcomes measured, persuading others how to vote in an election and commitment to civic participation, the omnibus test was non-significant. Those outcomes are excluded from the table.

Table 2: Relationship between hours of game play and civic and political outcomes						
	Civic and Political Outcomes					
	Get info. about Politics	**Volunteer**	**Charity**	**Stay Informed**	**Commitment to Participation**	**Political Interest**
	Exp(B)	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**
Demographic Variables						
Income	1.063	1.080	.972	1.099*	.882*	1.080
Parent Hispanic	1.666*	.630*	.905	.856	.885	.769
Parent African American	1.153	.701	.807	1.135	.813	1.205
Parent Other	2.725*	1.679	1.025	2.071*	1.278	1.217
Child age (older)	1.465*	1.380*	1.071	2.002***	1.384	1.682**
Child sex (female)	1.017	1.182	1.187	1.150	1.174	.956
Parent Involvement						
Parent volunteered	--	2.232***	--	--	1.441*	--
Parent charity	--	--	2.089***	--	1.234	--
Parent protested	--	--	--	--	.966	2.199*
Parent stays informed	1.165	--	--	2.584***	1.321	.932
Hours of Game Play						
Hours of Game Play	.929	.855*	.881	.917	.829*	.954
R^2	.036*	.103***	.053***	.115***	.054**	.041*
Note: For two of the civic and political outcomes measured, persuading others how to vote in an election and protesting the omnibus test was non-significant. Those outcomes are excluded from the table.						

Table 3: Relationship between civic gaming experiences and civic and political outcomes								
	Civic and Political Outcomes							
	Get Info. about Politics	**Volunteer**	**Charity**	**Persuade others**	**Stay Informed**	**Protest**	**Participatory Citizenship**	**Political Interest**
	Exp(B)	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**
Demographic Variables								
Income	1.093	1.097*	.998	1.049	1.113*	.933	.902*	1.108*
Parent Hispanic	1.619	.624*	.886	.946	.853	1.313	.857	.748
Parent African American	1.149	.692	.793	1.096	1.053	1.189	.776	1.131
Parent Other	2.679*	1.659	.974	.945	1.942	.528	1.259	1.138
Child age (older)	1.570**	1.417*	1.171	1.516*	2.115***	1.146	1.471*	1.742**
Child sex (female)	1.124	1.331	1.422*	1.356	1.289	1.394	1.329	1.079
Parent Involvement								
Parent volunteered	--	2.271***	--	--	--	--	1.510*	--
Parent charity	--	--	2.094***	--	--	--	1.177	--
Parent protested	--	--	--	--	-	5.139***	.977	2.345*
Parent stays informed	1.136	--	--	1.269	2.588***	--	1.268	.897
Civic Gaming Experiences								
Average Civic Gaming Experiences	1.635*	1.310	2.175***	1.586	2.241***	2.060	1.394	2.092***
Most Civic Gaming Experiences	2.624***	1.461	3.095***	3.327***	1.976**	3.307**	2.024**	2.657***
R^2	.066***	.101***	.092***	.064***	.141***	.075**	.059**	.077***

Table 4: Relationship between playing with others and civic and political outcomes								
	Civic and Political Outcomes							
	Get info. about politics	**Volunteer**	**Charity**	**Persuade others**	**Stay informed**	**Protest**	**Participatory Citizenship**	**Political Interest**
	Exp(B)	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**
Demographic Variables								
Income	1.080	1.092*	.985	1.032	1.112*	.937	.896*	1.090
Parent Hispanic	1.645*	.637	.890	1.021	.845	1.361	.887	.761
Parent African American	1.093	.679	.801	1.050	1.101	1.068	.789	1.170
Parent Other	2.638**	1.608	1.009	.979	2.000*	.519	1.298	1.185
Child age (older)	1.505**	1.406*	1.100	1.454*	2.023***	1.002	1.398*	1.702***
Child sex (female)	1.099	1.339**	1.300	1.330	1.237	1.369	1.269	1.005
Parent Involvement								
Parent volunteered	--	2.296***	--	--	--	--	1.482*	--
Parent charity	--	--	2.139***	--	--	--	1.203	--
Parent protested	--	--	--	--	--	4.240***	.930	2.130
Parent stays informed	1.160	--	--	1.331	2.594***	--	1.321	.936
Social Context								
Play games with others in person	1.397*	1.138	1.662**	1.738**	.960	1.070	1.424*	1.147
Play games with others online	1.211	1.325	1.008	1.446	1.234	1.334	.940	1.183
R^2	.043**	.099***	.065***	.040*	.116***	.049	.052**	.044**

Table 5: Relationship between researching and writing about games and civic and political outcomes (controlling for social nature of game play)

	Civic and Political Outcomes							
	Get info. about politics	**Volunteer**	**Charity**	**Persuade others**	**Stay informed**	**Protest**	**Participatory Citizenship**	**Political Interest**
	Exp(B)	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**	**Exp(B)**
Demographic Variables								
Income	1.097*	1.082	1.016	1.093	1.116*	.937	.900*	1.093
Parent Hispanic	1.593	.711	1.044	1.056	.859	1.454	.976	.870
Parent African American	1.158	.690	.710	.929	1.162	1.458	.692	1.227
Parent Other	2.787**	1.673	1.229	.995	2.435*	.554	1.432	1.284
Child age (older)	1.566**	1.421*	1.065	1.546*	1.956***	1.008	1.424*	1.654**
Child sex (female)	1.255	1.211	1.223	1.388	1.276	1.417	1.167	.990
Parent Involvement								
Parent volunteered	--	2.281***	--	--	--	--	1.529*	--
Parent charity	--	--	2.102***	--	--	--	1.142	--
Parent protested	--	--	--	--	--	4.748***	1.045	2.322*
Parent stays informed	1.130	--	--	1.507	2.667***	--	1.393	1.115
Social Context								
Play games with others in person	1.355	1.031	1.564**	1.804**	.897	.891	1.446*	1.115
Play games with others online	1.088	1.060	.910	1.181	.920	.748	.779	.986
Research game play	1.716**	.876	.864	1.173	1.145	1.517	1.149	1.079
Write about game play	1.132	1.585	1.892*	2.667***	1.835*	2.870**	1.881*	1.738*
R^2	.061***	.092***	.071***	.804***	.118***	.096**	.071**	.048*

Table 6: Demographic predictors of civic gaming experiences	
	Reported having "some" or "frequent" civic gaming experiences
	Exp(B)
Demographic Variables	
Income	.930
Parent Hispanic	.922
Parent African American	1.370
Parent Other	1.443
Child age (older)	.844
Child sex (female)	.667*
Frequency of Game Play	
Some Games (vs. little/ none)	1.595*
Frequent Games (vs. little/ none)	1.936**
R^2	.048**

Methodology

Parent and Teen Survey on Gaming and Civic Engagement

Summary[59]

The Parent and Teen Survey on Gaming and Civic Engagement, sponsored by the Pew Internet and American Life Project, obtained telephone interviews with a nationally representative sample of 1102 12- to 17-year-olds and their parents in continental U.S. telephone households. The survey was conducted by Princeton Survey Research International. Interviews were done in English by Princeton Data Source, LLC, from November 1, 2007, to February 5, 2008. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is ±3.2%.

Details on the design, execution and analysis of the survey are discussed below, along with details of the procedures used to code games and their ratings.

Design and Data Collection Procedures

Sample Design: The sample was designed to represent all teens ages 12-17 living in continental U.S. telephone households. The telephone sample was provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. The sample was drawn using standard *list-assisted random digit dialing* (RDD) methodology. *Active blocks* of telephone numbers (area code + exchange + two-digit block number) that contained three or more residential directory listings were selected with probabilities in proportion to their share of listed telephone households; after selection two more digits were added randomly to complete the number. This method guarantees coverage of every assigned phone number regardless of whether that number is directory listed, purposely unlisted, or too new to be listed. After selection, the numbers were compared against business directories and matching numbers purged.

Contact Procedures: Interviews were conducted from November 1, 2007 to February 5, 2008. As many as 10 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that

[59] Quantitative methodology statement prepared by Princeton Survey Research Associates International for the Pew Internet and American Life Project.

complete call procedures are followed for the entire sample. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each household received at least one daytime call in an attempt to find someone at home.

In each contacted household, interviewers first determined if a child age 12-17 lived in the household. Households with no children in the target age range were screened out as ineligible. For eligible households, interviewers first conducted a short interview with a parent or guardian and then interviews were conducted with the target child.[60]

Weighting and analysis: Weighting is generally used in survey analysis to compensate for patterns of nonresponse that might bias results. The interviewed sample of all adults was weighted to match national parameters for both parent and child demographics. The parent demographics used for weighting were: sex; age; education; race; Hispanic origin; and region (U.S. Census definitions). The child demographics used for weighting were gender and age. These parameters came from a special analysis of the Census Bureau's 2006 Annual Social and Economic Supplement (ASEC) that included all households in the continental United States that had a telephone.

Weighting was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the *Deming Algorithm*. Weights were trimmed to prevent individual interviews from having too much influence on the final results. The use of these weights in statistical analysis ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the national population. Table 1 compares weighted and unweighted sample distributions to population parameters.

[60] In households with more than one 12- to 17 year-old, interviewers asked parents about, and conducted interviews with, a child selected at random.

Table 1: Sample Demographics

2006 Parameter		Unweighted	Weighted
Census Region			
Northeast	18.2	17.5	18.2
Midwest	22.3	27.0	22.9
South	35.6	33.1	35.5
West	23.9	22.3	23.3
Parent's Sex			
Male	44.1	36.7	43.2
Female	55.9	63.3	56.8
Parent's Age			
LT 35	10.0	8.0	9.6
35-39	19.0	16.2	18.8
40-44	28.4	24.7	28.2
45-49	24.4	26.7	24.7
50-54	12.4	15.3	12.6
55+	5.8	9.1	6.2
Parent's Education			
Less than HS grad.	12.6	6.6	10.9
HS grad.	35.5	28.0	35.8
Some college	22.9	26.4	23.3
College grad.	29.0	39.0	30.0
Parent's Race/Ethnicity			
White~Hispanic	66.3	74.6	68.0
Black~Hispanic	11.4	11.1	11.6
Hispanic	16.3	9.5	14.4
Other~Hispanic	6.0	4.8	6.0
Kid's Sex			
Male	51.2	50.5	51.1
Female	48.8	49.5	48.9
Kid's Age			
12	16.7	14.7	16.5
13	16.7	16.5	16.7
14	16.7	14.2	16.4
15	16.7	18.4	17.0
16	16.7	17.9	16.7
17	16.7	18.3	16.8

Effects of Sample Design on Statistical Inference: Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. PSRAI calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called design effect or *deff* represents the loss in statistical efficiency that results from systematic non-response. The total sample design effect for this survey is 1.17.

PSRAI calculates the composite design effect for a sample of size *n*, with each case having a weight, w_i as:

$$deff = \frac{n\sum_{i=1}^{n} w_i^2}{\left(\sum_{i=1}^{n} w_i\right)^2} \qquad f$$

In a wide range of situations, the adjusted *standard error* of a statistic should be calculated by multiplying the usual formula by the square root of the design effect ($\sqrt{deff}$). Thus, the formula for computing the 95% confidence interval around a percentage is:

$$\hat{p} \pm \left(\sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} \right) \qquad f$$

where $\ddot{\mathbf{p}}$ is the sample estimate and *n* is the unweighted number of sample cases in the group being considered.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample— the one around 50%. For example, the margin of error for the entire sample is ±3.2%. This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.2 percentage points away from their true values in the population. The margin of error for teen internet users is ±3.3% and for teen game players is ±3.2%. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

Response Rate

Table 2 reports the disposition of all sampled telephone numbers ever dialed from the original telephone number sample. The response rate estimates the fraction of all eligible

respondents in the sample that were ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:[61]

- Contact rate — the proportion of working numbers where a request for interview was made—of 84 percent[62]
- Cooperation rate—the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused—of 41 percent
- Completion rate—the proportion of initially cooperating and eligible interviews that were completed—of 78 percent

Thus the response rate for this survey was 26 percent.

Table 2: Sample Disposition

112,882	**Total Numbers Dialed**
6,768	**Business/Government/Non-Residential**
5,949	**Fax/Modem**
62	**Cell phone**
42,092	**Other Not-Working**
8,181	**Additional projected NW**
49,830	Working numbers
44.1%	Working Rate
2,430	**No Answer**
298	**Busy**
4,677	**Answering Machine**
731	**Other Non-Contacts**
41,695	Contacted numbers
83.7%	Contact Rate
2,244	**Callbacks**
22,567	**Refusal 1 - Refusal before eligibility status known**
16,884	Cooperating numbers
40.5%	Cooperation Rate
1,824	**Language Barrier**
13,647	**Screenouts**
1,413	Eligible numbers
8.4%	Eligibility Rate
311	**Refusal 2 - Refusal after case determined eligible**
1,102	**Completes**
78.0%	Completion Rate
26.4%	Response Rate

[61] PSRAI's disposition codes and reporting are consistent with the American Association for Public Opinion Research standards.

[62] PSRAI assumes that 75 percent of cases that result in a constant disposition of "No answer" or "Busy" are actually not working numbers.

Open-Ended Response Coding Instructions[63]

In coding the open ended responses to our "What are your current top three favorite games?" question, we used two people to count the frequency of each of the individual game titles named by the respondents in the survey. The two coders then reconciled their findings to make sure their numbers and their interpretations of the misspelled games were consistent. We then compiled a master list of all of the spelling "transformations" we made as well as a list of responses that we could not find in our game search or found to be ambiguous. We then sorted all of the games into six categories:

- Games with ratings: The majority of the games listed in the survey as respondents' top three favorite games are console games that are reviewed and rated by the Electronic Software Rating Board (ESRB).
- Unrated games: Many of the games that teens play are online flash games, downloaded games, or games played on a computer from a CD, all of which are unregulated by the ESRB, and thus, unrated. There are 78 unrated games in this survey. In some cases, teens simply listed the website where they go to play games (such as www.miniclips.com or www.pogo.com).
- Game titles we could not find: Some titles we could not decipher, did not exist in the ESRB database, the ESA spread sheet, and were not Google-able. Other titles were ambiguous and could point to different games. For instance, "hearts 2" could be a second electronic version of the card game "hearts," or it could refer to "kingdom hearts 2." There were 59 game titles listed by survey respondents that we could not find.
- General game genres: Some respondents listed a genre of games, such as "racing games," rather than a specific title as one of their three favorite games. There are 149 responses that were unspecific.
- Don't know: Respondents who answered with different versions of don't know or who listed games that had not been released at the time of the survey
- Transformation of misspelled games: Some game titles were written down incorrectly, but we were able to guess with a large degree of certainty what the real title the respondent was referring to. For example: the game "Metroid Crime" does not exist, however, "Metroid Prime" is a popular Nintendo game rated T for teen.

Coding Game Ratings

The majority of the games in the survey are rated by the ESRB. However, we encountered several problems when we sorted the games and recorded their assigned ratings:

[63] This section of the methodology prepared by the Pew Internet & American Life Project.

- The largest problem that we found is that there are multiple ratings for the same game and the ratings vary based on the equipment used to play the game.
- There are 101 games in this survey that have multiple ratings.
- In order to deal with multiple ratings, each rating was given a value from 0 to 5 (EC=0, E=1, E10+=2, T=3, M=4, AO=5) and we averaged the ratings of the games listed under that title on the ESRB website together. For example, if there were 14 versions of Tony Hawk Pro Skater, two of them were rated E, five of them were rated E10+, and seven were rated T, then that would be an average rating of 2.21.

Coding the Individual Respondent Game Ratings

In order to determine the rating for each respondent, we used the list of game ratings that we compiled earlier and averaged the ratings for all of the games that the respondent listed. For respondents who did not list any games, who played games we could not find in our initial search, or who only played unrated online or PC games, we marked them as "9."

As we noted earlier, one of the more difficult aspects of this coding is that most of the individual games have multiple ratings depending on the devices used to play the game. For instance, The Sims 2 is rated E10+ (meaning it is deemed appropriate for kids age 10 and older) on the Nintendo DS, but the version for the Sony PSP is rated T for teen (meaning the ESRB has deemed it appropriate for ages 13 and older). We averaged the ratings that correlated with the game titles that each respondent listed, but since we do not know which specific device the respondent used to play the game (or whether he or she used multiple devices) the ratings for each game are averages of all the possible ratings for the game title. For further information, see the "Coding Ratings" section. In keeping with our system of converting the ratings to numerical values (ec=0, e=1, e10+=2, t=3, m=4, ao=5), the average game rating for the respondents range from 0-5.

Coding for M- and/or AO-Rated Games

There are many games in our survey with at least one version that has an M or AO rating. In order to track the teens who play these games, we created a variable that kept track of how many games with an M or an AO rated version each respondent plays. This variable is potentially skewed, because as we explained earlier, many games have multiple ratings. This variable assumes that the respondent is playing the version of the game with the M or AO rating. Some of the games have versions with less mature ratings, and we have no way of knowing which version the respondent is playing, or if the respondent plays multiple versions, each with a different rating.

Coding for Top Five Game Franchises

We coded for the top five video game franchises rather than the top five favorite games because analyzing according to franchise yielded larger base sizes, which allows for more in-depth analysis.

In coding for the top five franchises, we created five dichotomous variables with a "1" to indicate if the respondent said they played a game in the franchise, and a "0" if they either did not name a particular game in that franchise, or if they did not provide any game titles.